

APT Qualifications

Certificate I in Permaculture 30866 QLD

Certificate II in Permaculture 30867QLD

Course Information & Units of Competency - Amended 2011

General Information

Copyright owner of the course

Permaculture International Limited

Copyright acknowledgement

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Permaculture International Limited P. O. Box 500, St Ives, NSW 2075

OR contact APT admin info@permaculture.com.au

Course accrediting body: Training and Employment Recognition Council (TERC)

AVETMISS information – refer to accreditation document for details of course conditions

Period of accreditation: 18/11/2009 to 17/11/2014 - 5 years

NB for imported units please go to training.gov.au

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Course / qualification structure

Employability Skills

APT Units of Competency

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Course / qualification structure

Employability Skills

APT Units of Competency

30866 QLD Certificate I in Permaculture

Vocational or educational outcomes of the course

Certificate I in Permaculture will provide basic skills training in permaculture under full supervision. Outcomes include employment in permaculture, agriculture, horticulture or land management industries.

On completion of the course the students will be able to receive and pass on relevant information, perform basic permaculture tasks under supervision, demonstrate some basic permaculture skills and knowledge.

30866 QLD Certificate I in Permaculture

Course Structure: Packaging to gain the qualification

Apart from the listed elective options, students may select up to two (2) elective units from national Training Packages so long as the selected units:

- do not replicate other units undertaken as part of the current qualification
- align with other electives to make an appropriate job-related or enterprise-required set of skills and knowledge
- are taken from AQF levels 1 or 2

Core	Complete all three (3) units in the Core Group		
Elective	Complete at least three (3) units from the Elective Group of which at least <u>one must</u> be an Accredited Permaculture Training unit.		
Total number of units of competency	6 units.		
Code	Unit of Competency	Pre-requisite	Nominal Hours
Core Group			
QLD841PPP01B	Observe permaculture principles and practices	nil	25
QLD841RES02B	Support resource conservation practices	nil	25
AHCOHS101A	Work safely	nil	
Nominal Hours			60
Elective Group			
QLD841IPA03B	Support plant care in a permaculture system	nil	25
QLD841IPA04B	Support animal care in a permaculture system	nil	25
AHCWRK101A	Maintain the workplace	nil	10
AHCMOM101A	Assist with routine maintenance of machinery and equipment	nil	20
AHCORG101A	Support organic production	nil	
AHCNAR101A	Support natural area conservation	nil	15
Nominal Hours			45-60

Entry requirements

Certificates I and II

Students need to be at the Australian Core Skills Framework level 1

Employability Skills

Qualification Title: Certificate I in Permaculture

The following table contains a summary of the employability skills as identified by the course proponent for this qualification. The employability skills facets described here are broad industry requirements that may vary depending on qualification packaging options and job role requirements.

Employability skill	Industry requirements for this qualification include the following facets:
Communication:	Listening and understanding Speaking clearly and directly Sharing information
Teamwork:	Working with people of different ages, gender, race, religion, or political persuasion Working as individual and as a member of team Knowing how to define a role as part of a team
Problem solving:	Identifying problems and reporting them
Initiative and enterprise:	Adapting to new situations
Planning and organising:	Understanding basic operating procedures and organisational systems.
Self management:	Taking responsibility for own emotional state and work-readiness Performing routine tasks as directed
Learning:	Using a range of media to learn – mentoring, peer support, networking, information technology, courses
Technology:	-

Certificate I in Permaculture Enterprise Units of Competency

QLD841PPP01B

Observe permaculture principles and work practices

Unit Descriptor

This unit provides the skills and knowledge to follow workplace directions and instructions, observe permaculture principles and practices, recognise good environmentally sustainable practices, recognise socially supportive communities, communicate with supervisors and workplace colleagues, and contribute to positive permaculture work practices.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills
The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to work in the community, the home, the school, and in permaculture or community gardens and farms. It involves the application of skills and knowledge at the high school level or within community programs.

ELEMENT

PERFORMANCE CRITERIA

Elements describe the essential

Performance criteria describe the required performance needed to demonstrate

outcomes of a unit of competency. *achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

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|---|---|--|
| 1 | Recognise <i>permaculture principles</i> and work practices | 1.1 Recognise good environmentally sustainable practices , and seek clarification when necessary. |
| | | 1.2 Adopt work practices which maximise productivity and time efficiency and minimise waste and resource use. |
| | | 1.3 Follow instructions and directions provided by supervisor and seek clarification when necessary. |
| 2 | Contribute to improved permaculture practices | 2.1 Gather information about permaculture principles and practices and support the development of improved permaculture practices. |
| | | 2.2 Discuss environmental issues, community issues and their relationship to permaculture practices with colleagues and designated personnel . |
| | | 2.3 Make limited contributions to the review of permaculture practices in a permaculture workplace within limits of responsibility. |

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Basic permaculture ethics, principles and practices
- Good practice approaches to minimising environmental hazards and risks
- Basic factors to improve environmental performance including in regard to water catchments, ecosystems, habitat, efficient use of resources, sustainability and waste minimisation
- Basic factors to improve community issues especially in regard to caring for people, sharing any surplus and setting limits to growth.
- General work practices and their potential impacts on the environment

Essential skills:

Ability to:

- Co-operate with others as part of a team
- Communicate with supervisors and workplace colleagues
- Recognise basic environmental influences (both positive and negative)
- Follow workplace directions and instructions
- Contribute to improved permaculture work practices

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. Add any 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.

Permaculture principles may include:

- At this level, permaculture principles would constitute the trainer's interpretation and simplification of those contained in the two seminal permaculture text books: *Permaculture, A Designer's Manual* (Mollison 1988) and *Permaculture, Principles and Pathways Beyond Sustainability* (Holmgren 2002).

Environmentally sustainable practices may include

- producing no waste
- thinking globally and acting locally
- observing nature and learning from her patterns
- responding to change creatively and with consideration for the needs of all users of and/or elements in the system
- learning from mistakes and developing successes

Productivity may include:

- relative location of elements in a permaculture system
- minimising use of human and/or non-human energy and valuing renewable sources of energy
- maximising yields within the limits of the system and valuing all resources and services

Information may include:

- Identifying examples of permaculture principles
- researching ideas to minimise hazards and risks, reduce waste, make more efficient use of resources and improve environmental performance in the workplace
- improve soil and improve habitat resources
- improve approaches to community sustainability or effectively combine these

Environmental issues may include:

- sustainability of work practices
- reduction and disposal of waste
- improvements to water quality
- improvements to air quality
- energy efficiency
- biodiversity and habitat protection
- conservation of natural resources
- land restoration, soil and salinity management
- fire management

Community issues may include:

- social support networks
- sharing of resources (knowledge, skills, time, goods, services, food and surplus)
- outreach and participation in community wellbeing

Designated personnel may include:

- managers
- trainers
- supervisors
- people who are responsible for work area or who may be assigned to act as a mentor/trainer to a person under instruction

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the

key competencies and the common competencies for the particular AQF level

- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.
- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

Method of assessment

Access and Equity Considerations

QLD841RES02B

Support resource conservation practices

Unit Descriptor

This unit provides the skills and knowledge to support resource conservation practices in a permaculture system under supervision, including preparing materials, tools and equipment for resource conservation, undertaking resource conservation activities, storing and stockpiling materials, and cleaning up on completion of work.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills

The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to resource conservation work in community projects, environmentally sustainable business operations, schools, the community, the home, and in permaculture or community gardens and farms. It involves the application of skills and knowledge at the high school level or within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

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|---|---|---|
| 1 | Prepare materials, tools and equipment for <i>resource conservation</i> | 1.1 Identify and check the required materials, tools and equipment and prepare according to lists provided and/or supervisors instructions . |
| | | 1.2 Select and check suitable personal protective equipment (PPE) and use it during work period. |
| | | 1.3 Use suitable manual and materials handling techniques during work period. |
| | | 1.4 Adopt work practices which maximise productivity and time efficiency and minimise waste and resource use. |
| | | 1.5 Follow instructions and directions provided by supervisor and seek clarification when necessary. |
| 2 | Undertake resource conservation practices as directed | 2.1 Gather information on resource conservation in a permaculture system. |
| | | 2.2 Undertake resource conservation work in a safe and environmentally appropriate manner according to work site guidelines and principles of resource conservation . |
| | | 2.3 Observe workplace policy and procedures in relation to workplace practice, handling, re-use and disposal of materials. |
| | | 2.4 Report problems or difficulties in completing work to required standards or timelines to supervisor. |
| 3 | Store and stockpile | 3.1 Store all usable and re-usable materials in a designated |

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| materials | | area according to supervisor's instructions. |
| | 3.2 | Prepare and process all usable and re-usable materials in an appropriate and safe manner according to supervisor's instructions and workplace policies and procedures. |
| 4 Clean up on completion of resource conservation work | 4.1 | Clean, maintain and store tools and equipment according to manufacturers specifications and supervisor's instructions. |
| | 4.2 | Maintain a clean and safe work site while completing resource conservation activities. |

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Basic permaculture principles and practices
- Tools and equipment used in resource conservation work
- Basic principles of resource conservation including
 - reduce, reuse and recycle
 - minimal impact living
 - sustainable food production
 - energy-efficiency
 - appropriate energy (solar and wind power)
 - appropriate technology (composting toilets, grey water re-use)
 - mulching
 - revegetation
- Community and social interaction and support
- Techniques used in resource conservation relevant to this level
- Making connections between everyday living and sustainable use of land

Essential skills:

Ability to:

- Cooperate with others as part of a team
- Prepare materials, tools and equipment for resource conservation work
- Undertake resource conservation activities as directed
- Store and stockpile materials
- Clean up on completion of resource conservation work

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. Add any 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.

Resource conservation may include:

- activities related to sustainable food production
- energy-efficient buildings
- conservation of materials (including paper, food waste and recyclables)
- waste water treatment and recycling
- solar and wind power
- composting toilets
- solar greenhouses
- solar food cooking and drying
- water collection, management, and re-use systems
- rain catchment, constructed wetlands, aquaponics, solar aquatic ponds
- revegetation, planting programs, direct seeding operations, assisted natural regeneration, protection of remnant vegetation
- seed collecting and propagation

Tools and equipment may include but not limited to:

- secateurs
- spades, shovels, rakes
- spray equipment
- hand or mechanical augers

Instructions may include:

- Standard Operating Procedures (SOPs)
- specifications
- work notes
- Material Safety Data Sheets (MSDSs)
- manufacturers' instructions
- verbal directions from manager, supervisor, or senior field operators

Personal protective equipment may include:

- steel capped boots/shoes
- overalls
- gloves
- sun hat
- sunscreen lotion
- safety goggles
- face mask
- ear protection

Productivity may include:

- quality of work achieved within a given time
- maximising re-use of resources and minimising waste or trashing of resources
- efficient use of space
- efficient movement of resources using the zoning principles of placing elements according to intensity and frequency of use.

Information may include:

- procedures for dealing with surplus materials
- work instructions or verbal instructions from the supervisor

Safe may include:

- handling heavy materials and equipment
- slippery or uneven surfaces
- moving machinery and vehicles
- snake, spider and insect bites
- solar radiation and dust

Principles of resource conservation may include but are not limited to:

- Reducing resource consumption at home, in the garden and in the workplace
- Reusing (repairing) items rather than throwing them away
- Recycling not garbage (on site where possible)
- Refusing single-use or non-reparable products

EVIDENCE GUIDE

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Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit

should be undertaken in an actual workplace or in a realistically simulated environment

- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.
- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

Method of assessment

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

Access and Equity Considerations

QLD841IPA03B

Support plant care in a permaculture system

Unit Descriptor

This unit provides the skills and knowledge to support plant care in a permaculture system under supervision, including basic permaculture principles, plant and crop care techniques and safe work practices.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills

The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture gardening work and involves the application of skills and knowledge at the high school level or within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

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| 1 | Demonstrate safe and efficient work practices | 1.1 Identify and check the required materials, tools and equipment and prepare according to lists provided and/or supervisor's instructions . |
| | | 1.2 Select and check suitable personal protective equipment (PPE) and use it during work period. |
| | | 1.3 Use suitable manual and materials handling techniques during work period. |
| | | 1.4 Adopt work practices which maximise productivity and time efficiency and minimise waste and resource use. |
| | | 1.5 Follow instructions and directions provided by supervisor and seek clarification when necessary. |
| 2 | Undertake <i>bed preparation</i> and planting activities | 2.1 Determine requirements of plants, seeds or seedlings to be planted in conjunction with supervisor. |
| | | 2.2 Prepare beds for planting of plants, seeds or seedlings . |
| | | 2.3 Plant the plants, seeds or seedlings in accordance with their requirements and supervisor's directions. |
| | | 2.4 Observe enterprise policy and procedures in relation to workplace practices, handling and disposal of materials. |
| | | 2.5 Report problems or difficulties in completing work to required standards or timelines to supervisor. |
| 3 | Maintain plants as directed | 3.1 Determine watering regime for different plants in conjunction with supervisor. |
| | | 3.2 Determine nutrient requirements for plants in conjunction with supervisor. |
| | | 3.3 Clarify additional requirements of different plants in conjunction with supervisor. |

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| 4 | Identify common features of Zone 1 permaculture gardens | 4.1 | List key characteristics of Zone 1 permaculture gardens . |
| | | 4.2 | Compare and contrast common features of Zone 1 permaculture gardens with traditional home gardens . |
| 5 | Harvest plants and plant products | 5.1 | Identify potential yields from different species. |
| | | 5.2 | Harvest plants and/or plant products according to supervisor's direction and workplace requirements. |
| | | 5.3 | Store plants and/or plant products according to workplace requirements. |

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Basic permaculture ethics, principles and practices
- Safe work practices
- Basic principles of planting in permaculture systems including aspect, companion planting, and soil/water/plant relationship appropriate to this level
- Basic plant care techniques and plant nutrition as supplied through composts, worm castings, green manures, animal manures and support species
- Use of relevant hand tools and equipment
- Reusing and recycling excess products of plant care
- Basic permaculture ethics, principles and practices

Essential skills:

Ability to:

- Prepare materials, tools and equipment for work
- Undertake work as directed
- Handle materials and equipment
- Clean up on completion of work

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. Add any 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.

Instructions may include but are not limited to:

- Standard Operating Procedures (SOPs)
- specifications
- work notes
- Material Safety Data Sheets (MSDSs)
- manufacturers' instructions
- verbal directions from manager, supervisor, or senior field operators

At this level, permaculture principles would constitute the trainer's interpretation and simplification of those contained in the two seminary permaculture text books: *Permaculture, A Designer's Manual* (Mollison 1988) and *Permaculture, Principles and Pathways Beyond Sustainability* (Holmgren 2002). For example the principles and practices would include:

- producing no waste
- thinking globally and acting locally
- observing nature and learning from her patterns
- responding to change creatively and with consideration for the needs of all users of and/or elements in the system
- learning from mistakes and developing successes

Productivity may include:

- relative location of elements in a permaculture system
- quantity of work achieved within a given time

Bed preparation may include:

- clearing an existing bed of past crop residue,
- levelling or shaping the bed,
- adding compost, worm castings, animal manure or organic matter,
- adding mineral nutrients or trace elements according to the requirements of the crop to be planted,
- laying irrigation material,
- planting or turning in a green manure crop,
- digging soil
- the use of hand tools such as
 - tape measures,
 - planting tools,
 - rakes,
 - hoes,
 - forks,
 - shovels and
 - weeding implements

Requirements of plants, seeds or seedlings may include:

- Plants or seeds may require planting at specific individual and row spacings and depth
 - soils of a particular pH
 - soils with particular water-related characteristics (e.g. free draining, water logged) or with particular nutrient characteristics (e.g. low levels of particular chemicals, high levels of general nutrients)
- some plants may also grow more successfully in the presence or absence of other specific plants

Plants, seeds or seedlings may include:

- common and uncommon garden vegetables and herbs (food and medicinal)
- trees
- berries
- green manure crops

Watering regimes may include:

- specific water requirements of individual plants
 - optimum watering times for maximum watering efficiency
 - availability of people to perform watering duties
- hand watering, irrigation watering and compliance with legal (e.g. restrictions) and workplace requirements.

Nutrient requirements may include:

- the specific nutrients required for successful growth of plants
- nutrients which need to be added to the soil to overcome deficiencies
- delivery of different 'doses' of nutrients at different times in the plant growth cycle or seasonal cycle.

Additional requirements may include:

- aspect
- staking
- growing frames
- cold frames
- hot houses
- mulching
- companion plants
- pest control requirements
- manual propagation
- frost protection
- sun protection
- wind protection

Zone 1 permaculture gardens may include:

- proximity to housing
- frequent access
- plants for immediate cooking use
- higher maintenance plants or systems
- propagation and nurturing facilities (hothouse, greenhouse)
- experimentation and observation opportunities (due to frequent visits)
- compost or worm farm facilities
- use of intensive systems (e.g. regular mulching, watering)
- use of perennial plants
- plant guilds or companion planting
- species interplanting, including interplanting of food and ornamental species
- integrated pest management approach

Traditional home gardens may include:

- vegetables located far from house (out of sight)
- strict separation of food and ornamental species
- mono-cropping
- use of pesticides, herbicides, etc
- limited range of vegetables
- primary use of annual crops (few or no perennial food species)

Yields may include:

- fruit
- stalks
- leaves
- roots
- seeds
- flowers
- products for compost or mulch

Harvest may include:

- removing the whole plant
- removing individual leaves
- cutting
- digging up
- allowing 'tops' to die off
- cutting off at the base and allowing base to re-sprout
- allowing plants to go to seed

Store may include:

- dry storage for immediate use
- bottling
- drying
- refrigeration
- preserving

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a

realistically simulated environment

- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.
- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

Method of assessment

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

Access and Equity Considerations

QLD841IPA04B

Support animal care in a permaculture system

Unit Descriptor

This unit provides the skills and knowledge to support animal care in a permaculture system under supervision, including integrating animals and plants in permaculture systems, safe work practices relating to working with animals, animal husbandry tasks, the use of relevant tools and equipment and safe work practices.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills

The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture or community farm work and involves the application of skills and knowledge at the high school level or within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

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|---|---|---|
| 1 | Prepare materials, tools and equipment for <i>animal care</i> | 1.1 Identify and check the required materials, tools and equipment for animal care according to lists provided and/or supervisor's instructions . |
| | | 1.2 Check all materials, tools and equipment and report insufficient or faulty items to the supervisor. |
| | | 1.3 Use suitable manual and materials handling techniques during work period. |
| | | 1.4 Select and check suitable personal protective equipment (PPE) prior to use. |
| | | 1.5 Adopt work practices which maximise productivity and time efficiency and minimise waste and resource use. |
| | | 1.6 Identify OHS hazards and follow instructions and directions provided by supervisor, seeking clarification when necessary. |
| 2 | Undertake animal care as directed | 2.1 Determine requirements of animals under care. |
| | | 2.2 Undertake work with animals in a safe and environmentally appropriate manner according to permaculture principles, and workplace information . |
| | | 2.3 Observe permaculture principles, enterprise policy and procedures in relation to workplace practices, handling and disposal of waste materials . |
| | | 2.4 Identify yields from animals in the permaculture system. |
| | | 2.5 Observe basic indicators of animal health and report any problems to supervisor. |
| | | 2.6 Report any problems or difficulties in completing work to |

- required standards or timelines to supervisor.
- | | | | |
|---|--------------------------------|-----|--|
| 3 | Handle materials and equipment | 3.1 | Collect and store yields from animals and waste material produced during work in a designated area according to supervisors' instructions. |
| | | 3.2 | Handle and transport materials, equipment and machinery according to supervisors instructions. |
| | | 3.3 | Maintain a clean and safe work site while working. |
| 4 | Clean up on completion of work | 4.1 | Return materials to store or dispose of according to supervisors instructions. |
| | | 4.2 | Clean, maintain and store tools and equipment according to manufacturers specifications and supervisors instructions. |
| | | 4.3 | Report work outcomes to the supervisor. |

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Basic permaculture principles and practices
- Safe work practices
- Basic principles of integrating animals into permaculture systems
- Basic animal care
- Animal handling techniques
- Tools and equipment
- Repair and maintenance of animal housing and containment

Essential skills:

Ability to:

- Prepare materials, tools and equipment for work
- Undertake work as directed
- Handle materials and equipment
- Apply problem-solving skills to use available resources and prioritise daily tasks.
- Clean up on completion of work

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. Add any 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.

Animal care may include but is not limited to:

- Assistance with moving livestock
- caring for animals
- distributing feed
- loading and unloading feed stuff and bedding materials
- carrying out routine maintenance on: troughs, fences, housing
- cleaning: yards, sheds, fixtures and fittings

Tools and equipment may include but are not limited to:

- spades, forks, hoes, rakes
- collecting equipment: boxes, bins, buckets, wheel barrows
- aids: catching hooks, leads, head stalls
- hoses and hose fittings
- knives, secateurs, ladders

Instructions may include:

- feeding/task schedules
- Standard Operating Procedures (SOPs)
- specifications
- work notes
- Material Safety Data Sheets (MSDSs)
- manufacturer's instructions
- verbal directions from manager, supervisor, or senior workers

Personal protective equipment may include:

- boots
- steel capped boots
- overalls
- high visibility vest
- gloves
- sun hat
- sunscreen lotion
- safety goggles
- face mask
- ear protection

Productivity may include:

- quality of work achieved within a given time
- efficient use of products (yields) from the permaculture system
- relative location of elements in the permaculture system

OHS hazards may include:

- distinctive animal behaviours: kicking, pecking, biting etc
- dust, noise, air- and soil-borne micro-organisms
- substances hazardous to health
- solar radiation
- sharp hand tools and equipment
- insect bites and stings
- zoonotic diseases
- manual handling
- slippery and uneven surfaces

Animals may include:

- poultry
- goats
- sheep
- rabbits
- guinea pigs
- alpacas
- ponies
- pigs
- fish
- bees
- worms

Workplace information may include but is not limited to:

- feeding/task schedules
- procedures for disposing of waste materials
- work instructions
- verbal instructions from the supervisor

Waste material may include:

- broken components
- unhealthy or rotten materials
- dangerous materials (such as materials harbouring moulds)
- used containers that may be re-cycled, cleaned or disposed of

Yields may include but are not limited to:

- eggs
- milk
- wool
- meat
- manure
- young animals
- feathers
- honey
- wax
- worm castings
- services to the system such as mowing, ploughing, composting, heating and pest/weed control

Basic indicators of animal health may include:

- visible condition of animals
- wholesome smell
- lack of unusual behaviour
- lack of unusual excreta
- normal consumption of food and water

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for

the particular AQF level

- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace

Access and Equity Considerations

All workers in this industry should be aware of access and equity issues in relation to their own area of work.

All workers should develop their ability to work in a culturally diverse environment.

30867QLD Certificate II in Permaculture

Vocational or educational outcomes of the course

Certificate II in Permaculture will provide higher level skills training in permaculture where supervision is provided on a routine basis. Outcomes include employment in permaculture, agriculture, horticulture or land management industries.

On completion students will be able to demonstrate basic permaculture knowledge and a defined range of skills, perform a range of basic tasks with some supervision and apply permaculture solutions to a range of predictable problems.

30867QLD Certificate II in Permaculture

Packaging to gain the qualification

Apart from the listed elective options, students may select up to four (4) elective units from national Training Packages, so long as the selected units:

- *do not replicate other units undertaken as part of the current qualification*
- *align with other electives to make an appropriate job-related or enterprise-required set of skills and knowledge*
- *are taken from AQF levels 2 or 3*

Core	Complete all 6 units in Core Group		
Elective	Complete at least 9 units from the Elective Group of which at least <u>5 must</u> be Accredited Permaculture Training units.		
Total number of units of competency	15 units		
Code	Unit of Competency	Pre-requisite	Nominal Hours

Core Group

QLD842PPP01B	Work effectively in permaculture	nil	30
QLD842BIO03B	Record information about the local bioregion	nil	30
QLD842WAT04B	Check and operate permaculture water systems	nil	30
QLD842IPA06B	Plant and maintain permaculture crops	nil	30
QLD842IPA09B	Recognise characteristics of integrated plant and animal systems	nil	30
AHCOHS201A	Participate in OHS procedures	nil	20
Nominal Hours			170

Elective Group

QLD842RES02B	Harvest, treat and store seed	nil	30
QLD842RES05B	Prepare and store permaculture products	nil	30

QLD842IPA07B	Care for animals in a permaculture system	nil	30
QLD842IPA08B	Harvest permaculture crops	nil	30
QLD842COM10B	Operate within community projects	nil	20
QLD842IPA11B	Recognise threats and create opportunities in a permaculture system	nil	20
AHCARB202A	Fell small trees	nil	40
AHCNAR201A	Carry out natural area restoration works	nil	40
AHCNSY203A	Undertake propagation activities	nil	30
AHCPGD201A	Plant trees and shrubs	nil	20
AHCINF203A	Maintain properties and structures	nil	30
AHCMOM203A	Operate basic machinery and equipment	nil	
AHCSOL201A	Determine basic properties of soil and/or growing media	nil	24
AHCWRK209A	Participate in environmentally sustainable work practices	nil	
Nominal Hours			234-284

Entry requirements

Certificates I and II

Students need to be at the Australian Core Skills Framework level 1.

Employability Skills

Qualification Title; Certificate II in Permaculture

The following table contains a summary of the employability skills as identified by the course proponent for this qualification. The employability skills facets described here are broad industry requirements that may vary depending on qualification packaging options and job role requirements.

Employability skill	Industry requirements for this qualification include the following facets:
Communication:	Listening and understanding Speaking clearly and directly Writing to the needs of the audience Negotiating responsively Reading independently Empathising Using numeracy effectively Understanding the needs of internal and external clients as they apply to routine work tasks

Teamwork:	Working with people of different ages, gender, race, religion, or political persuasion Working as individual and as a member of team Knowing how to define a role as part of a team Applying teamwork skills to a range of solutions e.g. futures planning, crisis problem solving
Problem solving:	Solving predictable problems within routine work tasks, possibly with guidance from supervisor Developing practical solutions Solving problems in teams
Initiative and enterprise:	Adapting to new situations Translating ideas into action
Planning and organising:	Managing time and priorities – setting timelines, co-ordinating tasks for self and with others Being resourceful
Self management:	Taking responsibility for own work outputs
Learning:	Making own learning Contributing to the learning community at the workplace Having enthusiasm for ongoing learning Being open to new ideas and techniques
Technology:	

QLD842PPP01B

Unit Descriptor

Work effectively in permaculture

This unit provides the skills and knowledge required to work effectively on an individual basis and with others to obtain information about permaculture and observe working requirements. It requires knowledge of permaculture principles and work practices, workplace conditions and expectations, OHS policies and procedures, worksite policies and procedures, emergency procedures, and workplace communication channels.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills
The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture or community work and involves the application of skills and knowledge at the upper high school level or at the level of farm hand or assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

- | | | | |
|---|---|-----|---|
| 1 | Obtain information about permaculture | 1.1 | Correctly identify and access sources of information about permaculture. |
| | | 1.2 | Collect information to assist effective and safe work performance within a permaculture work site. |
| | | 1.3 | Identify workplace terms and conditions . |
| | | 1.4 | Identify work and career options for permaculture practice. |
| 2 | Observe workplace requirements | 2.1 | Ensure work practices comply with enterprise work requirements . |
| | | 2.2 | Faults and abnormalities in workplace practices are recognised and remedial action is taken to enterprise work requirements. |
| | | 2.3 | Dress and personal requirements comply with enterprise work requirements. |
| | | 2.4 | Observe punctuality in work attendance. |
| | | 2.5 | Complete work routines and specific instructions in line with workplace expectations and enterprise work requirements. |
| 3 | Accept responsibility for quality of own work | 3.1 | Keep personal work space well organised and safe according to supervisors instructions and enterprise work requirements. |
| | | 3.2 | Adhere to workplace code of conduct. |
| 4 | Plan own work | 4.1 | Interpret supervisors instructions and plan tasks efficiently. |
| | | 4.2 | Identify factors affecting work requirements and take appropriate action , when required. |
| | | 4.3 | Assess work load and prioritise within allocated timeframes. |
| 5 | Promote workplace | 5.1 | Undertake responsibilities and duties in a positive manner to |

	cooperation	promote co-operation and good workplace relationships.
		5.2 Co-operate with others as part of a team and with consideration of special needs of co-workers and others.
		5.3 Recognise and resolve any conflicts through personal communication if possible and/or reference to supervisor for support.
6	Contribute to a productive work environment	6.1 Fulfill commitments to undertake work or assist colleagues/team.
		6.2 Share knowledge and skills with colleagues/team through conversations and meetings.
		6.3 Recognise and seek out contributions from individuals of different gender and social and cultural backgrounds, if appropriate.
		6.4 Work is consistent with workplace standards relating to anti-discrimination and workplace harassment.
7	Undertake an activity to workplace requirements	7.1 Interpret work schedules consistently and undertake allotted tasks.
		7.2 Discuss knowledge and skills required for task with supervisors and colleagues/co-workers.
		7.3 Check availability of materials and equipment to ensure they are consistent with work schedules and the requirements of the tasks.
		7.4 Complete daily schedule of allocated tasks and seek assistance from supervisor if required.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Permaculture principles & ethics
- Permaculture practices and procedures
- Lifestyle as a conserver
- employment options in permaculture and 'green jobs'
- Transition Towns strategies
- Working with built environment, landscapes, social and service systems
- Cooperation in the workplace, workplace expectations and communication channels
- Workplace expectations and communication channels
- OHS policies and procedures

Essential skills:

Ability to:

- Collate information on permaculture
- Observe workplace requirements
- Accept responsibility for quality of own work
- Manage own work
- Maintain safety of others
- Promote workplace co-operation
- Contribute to a productive work environment
- Interpret work schedules

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. Add any 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.

Information about permaculture may include:

- permaculture ethics, principles and practices
- different sectors within a permaculture system
- relationships between sectors and the whole
- permaculture and other services available in the area as listed in available references including:
 - media reports
 - reference books
 - industry journals
 - internet sites
 - libraries
- observation of nature
- personal observation and experience
- relationships between the permaculture enterprise and other industries
- legislation that affects permaculture enterprises
- unions and industry associations
- career opportunities within permaculture
- work ethic required to work in permaculture enterprises
- industry expectations of staff
- quality assurance

Terms and conditions may include but are not limited to:

- workplace agreements
- employment contracts
- workplace requirements
- etiquette

Enterprise work requirements may include:

- dress code
- working hours
- procedures based on sound permaculture principles and practices
- supervisors oral or written instructions
- permaculture design or work program
- enterprise standard operating procedures (SOP)
- specifications
- routine maintenance schedules
- work notes
- product labels
- Material Safety Data Sheets (MSDS)
- manufacturers service specifications and operators manuals
- waste disposal
- recycling and re-use guidelines
- OHS procedures

Supervisor may include:

- Work-site co-ordinator
- Foreperson
- Manager
- Employer
- Trainer
- Owner
- Client

Appropriate action may include:

- rectifying faults
- prevention of damage
- elimination, mitigation or minimisation of risks
- reporting to a supervisor
- documenting according to organisational, risk management, quality assurance or continuous improvement policies and procedures

Special needs may include:

- people with a disability
- children
- elderly people
- people from non-English speaking background
- people from other cultures

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment • The assessee must provide evidence of specified

and evidence required to demonstrate competency in this unit

essential knowledge as well as skills.

- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation

- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace

Access and Equity Considerations

- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

QLD842RES02B

Unit Descriptor

Harvest, treat and store seed

This unit provides the skills and knowledge required to harvest, treat and store seed from species common to permaculture systems; seed harvesting techniques; characteristics of mature, healthy seed; diseases and pests likely to infect seed; seed extraction and storage techniques; and permaculture practices relating to seed harvesting and storage.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills

The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture or community work and involves the application of skills and knowledge at the upper high school level or at the level of farm hand or assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

- | | | |
|---|--------------------------------|--|
| 1 | Prepare for harvesting of seed | 1.1 Clean seed harvesting and handling equipment and transport to seed collecting site. |
| | | 1.2 Determine seed that is to be collected according to harvesting plan and enterprise work requirements . |
| | | 1.3 Prepare locations for treatment and storage of seed. |
| 2 | Harvest seed | 2.1 Collect seed using selected method in accordance with enterprise requirements, and any conditions of permit or agreements with land holders, if applicable. |
| | | 2.2 Protect the health of parent plants during seed collection, if required. |
| | | 2.3 Place seed in clean containers and label to enterprise work requirements. |
| | | 2.4 Follow enterprise occupational health and safety procedures and practices at all times. |
| 3 | Treat and store seed | 3.1 Separate seeds from other materials according to enterprise requirements using available separation methods. |
| | | 3.2 Treat seeds if required in accordance with harvesting plan and enterprise work procedures. |
| | | 3.3 Record all appropriate data regarding collected seed on the seed container according to the harvesting plan and enterprise work procedures. |
| | | 3.4 Pack and store seeds according to enterprise work procedures. |

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Permaculture principles and ethics
- Seed harvesting techniques

- Characteristics of mature, healthy seed
- Diseases & pests likely to affect the seed
- Seed extraction and storage techniques
- Permaculture practices relating to seed harvesting and storage

Essential skills:

Ability to:

- Prepare for harvesting of seed
- Harvest seed
- Treat and store seed

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. Add any 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.

Equipment may include:

- pruning tools
- extension pole
- sheets
- tarpaulins
- containers for holding seeds
- personal protective equipment
- ladders
- sieves
- labels and ties

Harvesting plan may include:

- detail on permaculture plan for a site
- harvesting schedules and charts
- seed ripeness indicators
- maps and locations of specific plants
- marketing plan
- quantity calculations for the needs of the enterprise or organisation
- advance order calculations
- storage, processing and treatment specifications for particular seed types
- records of provenance and other seed in seed bank
- labeling requirements

Enterprise work requirements may include:

- codes of practice
- client requirements
- procedures based on sound permaculture principles and practices
- seed collection techniques
- seed storage and handling techniques
- enterprise standard operating procedures (SOP)
- specifications
- routine maintenance schedules
- work notes
- product labels
- Materials Safety Data Sheets (MSDS)
- waste disposal
- recycling and re-use guidelines
- OHS procedures

Conditions of permit may include:

- limits on quantity allowed for collection
- limits on time period for collection
- particular use or destination for seed
- indigenous plant regulatory conditions

Separation methods may include:

- Hand selection
- wind separation/winnowing
- sieving
- vibrating
- flotation and fermentation
- drying
- crumbling of husks

Treat may include:

- Heat
- mechanical
- other appropriate non-chemical protection against pests

Appropriate data may include:

- Genus, species, family, variety and cultivar information
- provenance
- weight or number
- date collected
- place collected
- collector
- cultural advice or growing conditions
- seed treatment advice
- longevity information
- growing-out trial information
- storage location information or record locator

Pack and store may include:

- appropriate containers
- cool, dry location
- freezer or refrigerator
- pest deterrent mechanisms
- light exclusion mechanisms
- labeling and record location mechanisms

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated

unit

over the required range of situations relevant to the workplace.

- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
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 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

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And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted

- through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace

***Access and Equity
Considerations***

- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

QLD842BIO03B

Unit Descriptor

Record information about the local bioregion

This unit provides the skills and knowledge required to record information about the local bioregion by collecting, assessing and documenting information on a designated bioregion and its features, plants and animals, geography, human communities and ecological systems.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills
The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture or community work and involves the application of skills and knowledge at the upper high school level or at the level of farm hand or assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

- | | | |
|---|----------------------|---|
| 1 | Collect information | 1.1 Determine the boundaries and extent of bioregion according to community and geophysical and biological guidelines. |
| | | 1.2 Identify key plant and animal species of the ecosystem by local or common name. |
| | | 1.3 Identify special features and sites of the bioregion and relate to ecological information. |
| | | 1.4 Investigate knowledge on plants and animals relationships from a permaculture perspective . |
| | | 1.5 Investigate information on land uses and land management practices in the bioregion. |
| | | 1.6 Outline the history of bioregion from community sources and available literature |
| | | 1.7 Define simple food chains and energy flows relevant to the local bioregion. |
| 2 | Review changes | 2.1 Identify environmental changes from land use and the impacts of these changes on current and future land uses. |
| | | 2.2 Document environmental trends and their potential impacts on the bioregion. |
| | | 2.3 Record land and water management practices that can repair environmental changes. |
| 3 | Document information | 3.1 Record information about the local bioregion. |
| | | 3.2 Recognise and record ownership of information used in an appropriate manner. |
| | | 3.3 Clearly document any conditions and parameters defining use of information, if required. |

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Designated areas and features of bioregion.
- Local and/or common names for plants and animals.
- Basic ecological concepts.
- Natural, social and services systems.
- Alternative strategies of trade such as barter and LETS systems.
- Community resources including local skills, public transport options, contractors and facilities

Essential skills:

Ability to:

- Collect information
- Review changes over time
- Document information

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. Add any 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.

Bioregion must include:

- A bioregion is a land and water territory whose limits are defined not by political boundaries, but by the geographical limits of human communities and ecological systems.
- Water catchment is one of the key identifiers of the bioregion and one of the essential elements as the productivity of a permaculture system is limited by its access to water.
- The water catchment, storage, use/treatment of effluent and the water quality of rivers and creeks is essential to a permaculture designer. There are many “WaterWatch” groups that can provide useful information.
- The vegetation on catchment is also an essential feature of a bioregion. Plants and animal communities are directly related to the water retained in the soil and leads well to next point

Ecosystem may include:

- vegetation type
- animals
- plants
- other organisms
- climate
- soil
- cycles of energy and nutrients

***Ecological* relevant to this unit may include:**

- niche
- habitat
- community
- ecosystem
- energy flows
- food webs/chains
- water cycles
- species and species relationships
- plant and animal succession

***Permaculture perspective* may include:**

- seeing connections between elements in a system
- supporting ecological and community co-existence
- valuing renewable resources and energy

Food chain may include:

- plant and animal interactions and food webs
- human food security including food production outside the commercial systems
- threats to food availability for all species

Energy flows may include:

- movement of water through the landscape
- movement of nutrients through the landscape
- movement of humans and goods through the system (transport and distribution systems)
- embodied energy
- waste minimisation

Environmental changes may include:

- climate change
- pollution
- chemicals
- weeds
- feral animals
- introduced pests
- changed land uses

Record may include:

- written documentation
- photography and illustration
- tape or video recording/digital capture
- commitment to memory

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement

- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.
- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

Method of assessment

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

Access and Equity Considerations

QLD842WAT04B

Unit Descriptor

Check and operate permaculture water systems

This unit provides the skills and knowledge to check and operate permaculture water systems under routine supervision, to handle and shift equipment, follow property procedures relating to water management, identify adverse environmental impacts and take appropriate remedial action. It requires knowledge of natural water flows, productive aquaculture systems, dams and other earthworks for water systems, water collecting and recycling, waste-water systems, irrigation systems and water conservation.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills

The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture farm or garden work and involves the application of skills and knowledge at the upper high school level or at the level of farm hand or assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

- | | | |
|---|--|--|
| 1 | Set up <i>water systems</i> equipment | 1.1 Handle water systems equipment safely in accordance with OHS practices and enterprise work requirements . |
| | | 1.2 Position water systems equipment in accordance with supervisors instructions and enterprise work requirements. |
| | | 1.3 Check pumps, bores and other water delivery mechanisms and take action as required in accordance with supervisors instructions and enterprise work procedures. |
| | | 1.4 Position and secure water control devices as required in accordance with supervisors instructions and enterprise work procedures. |
| 2 | Carry out water systems operations | 2.1 Operate water systems as required in accordance with supervisors instructions and enterprise work procedures. |
| | | 2.2 Check required head and water levels are achieved and maintained in active systems to ensure sufficient water flow . |
| | | 2.3 Monitor progress of water flow in passive systems . |
| | | 2.4 Carry out water system changes and record as required according to enterprise work requirements. |
| | | 2.5 Shift water system equipment as required in accordance with enterprise work requirements. |
| 3 | Clean and store water system equipment | 3.1 Clean equipment and prepare for storage as required in accordance with enterprise work requirements. |
| | | 3.2 Safely load equipment for transport as required in accordance with enterprise work requirements. |
| | | 3.3 Store equipment as required in accordance with enterprise |

work requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Permaculture principles and ethics
- behaviour of water in the natural environment
- basic operation of water systems used on permaculture properties
- components of a water system and their cleaning and storage requirements (e.g. roof, tank, dam, soil terraces, swales, drainage, disposal/reuse options)
- water conservation and management principles and practices including working with passive systems, swales, terraces, dams and other earthworks
- passive harvesting, movement and nutrient adding systems including appropriate earthworks
- biological filtering of water into and out of a permaculture water system

Essential skills:

Ability to:

- read natural water flows
- set up water systems
- monitor water flow
- place system components in a way which gives most effect and greatest yield
- install earthworks for passive water catchment, storage and movement.
- add and extract nutrients to water moving through the system.
- follow OHS procedures relating to general activities involved in working with water systems on a permaculture property

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. Add any 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.

Water systems must include:

- both passive water systems and active water systems

Water systems may include:

- irrigation, water collection and storage
- recycling
- waste-water systems
- water conservation approaches
- swales
- dams
- free-flowing water
- extensive aquaculture systems
- aquaponics systems
- productive water bodies
- earthworks for passive water catchment, storage and yield.
- Irrigation systems may range from manual operation and monitoring to fully automated with computer control and monitoring

OHS issues may include:

- safe systems and procedures for the operation and maintenance of machinery and equipment, for outdoor work
- protection from solar radiation, dust and noise
- manual handling
- electrical risk
- personal protective clothing and equipment

Enterprise work procedures may include:

- procedures based on sound horticultural and permaculture principles and practices
- supervisors oral or written instructions
- water management program
- enterprise standard operating procedures (SOP)
- specifications
- routine maintenance schedules
- work notes
- product labels
- Material Safety Data Sheets (MSDS)
- manufacturers service specifications and operators manuals
- waste disposal
- recycling and re-use guidelines
- OHS procedures

Supervisor may include

- Work-site co-ordinator
- Foreperson
- Manager
- Employer
- Trainer

Active systems may include

- water systems with plastic or metal component parts
- piped irrigation or water delivery systems
- tanks
- bores
- windmills
- grey-water filters and treatment systems
- waste-water filters and treatment systems

Sufficient water flow may include:

- ensuring enough water reaches crop – different crops will have different water needs

Passive systems may include

- water systems without plastic or metal component parts that are formed by earthworks and understanding of the landscape and water flows
- swales and contour banks
- dams
- diversion channels
- chinampas
- mulch path systems

Transport may include:

- tractors
- trailers
- other off-road vehicles or on-road vehicles used to transport materials, equipment and machinery

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace

conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to

appropriate documentation and resources normally used in the workplace

Access and Equity Considerations

- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

QLD842RES05B

Unit Descriptor

Prepare and store permaculture products

This unit of competency provides the skills and knowledge required to carry out routine preparation and storage of products on a permaculture property. It covers the grading, labeling, treatment and storage of harvested products.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills

The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture farm or garden work and involves the application of skills and knowledge at the upper high school level or at the level of farm hand or assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

- | | | |
|---|---|---|
| 1 | Prepare for working with <i>permaculture products</i> | 1.1 Prepare and store permaculture products according to enterprise work procedures . |
| | | 1.2 Select materials, tools, equipment and machinery appropriate to the task being undertaken. |
| | | 1.3 Carry out safety checks on tools, equipment and machinery according to manufacturers specifications and enterprise work procedures. |
| | | 1.4 OHS hazards are identified, risks assessed and reported to the supervisor. |
| | | 1.5 Select, use and maintain suitable personal protective equipment (PPE). |
| 2 | Transport harvested products | 2.1 Employ safe manual handling techniques when handling containers. |
| | | 2.2 Employ appropriate field handling practices that minimises damage to products. |
| | | 2.3 Transport products with due care from the field to the preparation, treatment or storage area. |
| | | 2.4 Maintain containers in good working order. |
| 3 | Grade, label and treat products | 3.1 Grade and label harvested products according to enterprise specifications. |
| | | 3.2 Identify products that do not meet enterprise standards and dispose of them appropriately according to enterprise work procedures. |
| | | 3.3 Apply treatments to products according to enterprise work procedures. |
| | | 3.4 Clean and maintain tools, equipment and machinery according to enterprise work procedures. |
| 4 | Pack products | 4.1 Identify and confirm packaging materials, containers , filling |

- techniques and labeling requirements according to enterprise work procedures.
 - 4.2 Select correct packaging materials and container for specific products.
 - 4.3 Use correct filling techniques for specific containers and products according to enterprise work procedures.
- 5 Store products
 - 5.1 Transport products and arrange in the storage facility according to enterprise work procedures.
 - 5.2 Check the condition of stored products and remove damaged products and containers from the storage facility according to enterprise work procedures.
 - 5.3 **Clean** the storage facility and packing containers according to enterprise work procedures.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Permaculture principles and ethics
- Range of products grown in permaculture enterprises.
- Correct handling, preparation and treatment techniques for a range of products
- Observation and identification of harvest readiness and appropriate ways of harvesting to ensure future and maximum yields
- Storage methods for different products
- Pests and diseases likely to affect storage
- Hygiene issues in the handling and storage of plant products
- Options for treatment, re-use or recycling of waste materials
- Options for adding value to products such as dehydrating and preserving, making other products from the raw product, adapting waste to new uses

Essential skills:

Ability to:

- Prepare for working with permaculture products
- Transport harvested products
- Grade, label and treat products
- Pack products
- store products

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. Add any 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.

Permaculture products may include:

Plant products include:

- fruits
- vegetables
- seeds
- herbs
- flowers
- foliage
- grains
- bulbs
- tubers
- nuts
- mushrooms
- wild harvest plants
- oils
- firewood
- bamboo
- timber

• legumes and pulses

- mulch
- straw
- hay
- sawdust
- sap

Animal products include:

- meat
- eggs
- milk & dairy products
- honey & bee products
- young animals
- fish fingerlings
- feathers
- wool
- manure
- bones

enterprise work procedures may include:

- codes of practice
- client requirements
- procedures based on sound permaculture principles and practices
- product harvesting techniques
- product storage and handling techniques
- enterprise standard operating procedures (SOP)
- specifications
- routine maintenance schedules
- work notes
- product labels
- Materials Safety Data Sheets (MSDS)
- waste disposal
- recycling and re-use guidelines
- OHS procedures

Materials, tools, equipment and machinery may include:

- preservatives
- cleaning agents
- packaging materials and containers and labels
- tractors, trailers, light trucks
- snips, knives
- gloves
- packing tools
- scales
- hand trolleys and lifting aids
- preserving machinery/equipment
- dedicated storage facilities

OHS hazards may include:

- wet working environment
- electricity
- solar radiation
- dust, pollen, soil- borne micro-organisms
- noise
- chemicals and hazardous substances
- confined spaces
- sharp hand tools and equipment
- manual handling
- slippery or uneven surfaces
- moving equipment, machinery and vehicles
- threats from animals and insects

Personal protective equipment may include:

- hat
- boots
- overalls
- gloves
- apron
- waterproof clothing
- spray clothing
- goggles, respirator or face mask
- face guard
- hearing protection
- sunscreen lotion
- hard hat

Field handling practices may include:

- observing and identifying harvest readiness of products
- most appropriate way of harvesting to ensure future and maximum yields
- observing the fill level of containers
- lifting rather than dragging containers to avoid contact with dirt
- correctly stacking containers to reduce the risk of bruising, squashing or damaging the products
- smoothly transporting the harvested products to the post harvest processing or storage facility
- smoking hives
- appropriate animal handling

Treatments may include:

- removal of dirt and foreign material
- stripping excess leaves and/or trimming
- brushing
- washing/hydration
- drying
- dehydrating and preserving
- observing quarantine requirements
- storing in an appropriate environment

Containers may include:

- boxes
- cartons
- trays
- crates
- calico and net bags
- customised packaging and bulk bins
- jars and bottles
- film canisters and “Yowie” canisters
- paper and plastic envelopes

Clean may include:

- sweeping
- dusting
- washing
- scalding
- cleaning storage facilities to ensure dust, pests, diseases and waste material are removed
- ensuring a level of hygiene that protects the quality and health status of the stored products

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an

- appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace

Access and Equity Considerations

- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

QLD842IPA06B

Unit Descriptor

Plant and maintain permaculture crops

This unit provides the skills and knowledge required to plant and maintain plants in a permaculture cropping system under routine supervision and involves a range of planting tasks, including site preparation, the handling and planting of a range of planting materials, and the maintenance of crops in the field.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills
The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture farm or garden work and involves the application of skills and knowledge at the upper high school level or at the level of farm hand or assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

- | | | |
|---|--|---|
| 1 | Prepare to undertake crop maintenance activities | 1.1 Interpret instructions about planting and clarify with the supervisor. |
| | | 1.2 Select and prepare machinery, equipment and tools for the task being undertaken. |
| | | 1.3 OHS hazards are identified, risks assessed and reported to the supervisor. |
| | | 1.4 Identify the environmental implications of the planting program and discussed with the supervisor. |
| | | 1.5 Select, use and maintain suitable personal protective equipment (PPE). |
| 2 | Prepare the site for planting | 2.1 Remove or slash old plants, weeds and other residual materials and treat according to environmental implications. |
| | | 2.2 Apply soil treatments/amendments according to supervisors instructions. |
| | | 2.3 Implement plant protection according to enterprise work procedures . |
| | | 2.4 Mark out the planting pattern according to the permaculture planting plan and enterprise work procedures. |
| | | 2.5 Operate machinery, equipment and tools according to enterprise work procedures. |
| 3 | Carry out planting operations | 3.1 Select planting material according to enterprise quality standards. |
| | | 3.2 Maintain planting material under conditions which will ensure maximum viability. |
| | | 3.3 Handle and transport planting material to the site with no signs of transport damage. |

- 3.4 Carry out planting according to permaculture planting plan and enterprise work procedures.
- 4 Maintain plants
 - 4.1 Apply **treatments to plantings** according to the permaculture plan and supervisors instructions.
 - 4.2 Water plantings according to the **irrigation schedule** and supervisors instructions.
 - 4.3 Apply treatments to soil according to the permaculture plan and supervisors instructions
 - 4.4 **Train** plants according to supervisors instructions.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Permaculture principles and ethics.
- Principles of sustainable horticultural practices.
- Planting techniques
- Basic plant nutrition and soils.
- Companion planting
- Plant growth and development.
- Methods of waste disposal causing minimal impact on the environment

Essential skills:

Ability to:

- Prepare for planting
- Carry out planting operations
- Maintain plants

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. Add any 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.

Instructions may include:

- Standard Operating Procedures (SOP)
- enterprise policy and procedures regarding planting
- verbal directions from supervisor, trainer or enterprise manager

Machinery, equipment and tools may include:

- tractor and trailer
- cart or wheelbarrow
- cultivator
- hand tools
- rakes, forks and spades
- hoe, bulb planter
- stakes, ties and labels
- surveying and measuring equipment
- seeding or planting tools

OHS hazards may include:

- use of machinery, moving machinery and machinery parts
- falling trees and plant debris
- manual handling
- solar radiation
- dust
- noise
- insect, animal and snake bites and stings

Environmental implications may include:

- Negative environmental implications may include:
 - contamination of off-site ground water or soils from solids, debris, nutrients or chemicals
 - depletion of soil nutrients or humus levels
 - land disturbance, spread of noxious weeds, and water run-off
- Positive environmental implications may include:
 - increased carbon sequestration
 - control of erosion
 - improved water infiltration
 - improved air quality

Personal protective equipment may include:

- hat
- boots
- overalls
- gloves
- apron
- waterproof clothing
- spray clothing
- goggles, respirator or face mask
- face guard
- hearing protection
- sunscreen lotion
- hard hat

Soil treatments/ amendments may include:

- minerals including rock dusts
- organic matter
- manures, appropriate fertilisers and composts
- foliar feeds or fertigation
- vermicompost and worm castings
- planting of a temporary or permanent green manure or cover crop
- counter soil nutrient depletion by watering carefully
- legume plantings or interplantings
- sheet mulches

Plant protection may include:

- wind protection such as artificial structures, permanent shelter belts or temporary plantings of grasses
- trellises and stakes
- shade cloth, netting and fencing
- mulches

Enterprise work procedures may include:

- procedures based on sound permacultural and horticultural principles and practices
- supervisor's oral or written instructions
- plant establishment program
- enterprise standard operating procedures (SOPs)
- specifications
- routine maintenance schedules
- work notes
- product labels
- Material Safety Data Sheets (MSDSs)
- manufacturers' service specifications and operator's manuals
- waste disposal
- recycling and re-use guidelines
 - OHS procedures

Permaculture planting plan may include:

- permaculture design
- plant guilds
- companion planting associations
- planting patterns

Planting material may include:

- seeds
- seedlings
- runners
- cuttings
- marcots
- bare rooted trees and shrubs
- potted plants

Treatments to planting may include:

- organic or appropriate pest and disease prevention and control
- organic or appropriate weed prevention and control
- frost protection
- organic or appropriate fertilisers
- mulches

Irrigation schedule may include:

- watering days or rosters
- pumping routines
- timed automatic or manual irrigation

Train may include:

- thinning
- trimming
- staking
- trellising

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace

***Access and Equity
Considerations***

- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

QLD842IPA07B

Unit Descriptor

Care for animals in a permaculture system

This unit provides the skills and knowledge required to care for the health and welfare of animals in a permaculture system through providing the optimal environment for them, caring for animals common in permaculture systems, animal behaviour and handling and maintaining basic records. This standard is applicable to both farm animals and companion animals.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills

The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture farm or garden work and involves the application of skills and knowledge at the upper high school level or at the level of farm hand or assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

- | | | |
|---|--|--|
| 1 | Monitor and assess animal health and welfare | 1.1 Make regular checks to assess animal health and welfare according to supervisors instructions. |
| | | 1.2 Recognise and report symptoms of ill health, common diseases or parasite infestations in animals common in permaculture systems . |
| | | 1.3 Remove and dispose of dead animals, if necessary, according to enterprise work procedures . |
| 2 | Provide an optimal environment for animals | 2.1 Provide an optimal environment for animals according to organisation procedures and any relevant codes of welfare or regulations. |
| | | 2.2 Install equipment and housing in accordance with established organisation quality assurance and animal welfare guidelines. |
| | | 2.3 Monitor welfare of animals and report any abnormalities promptly according to enterprise work procedures. |
| 3 | Establish and maintain quality of animal housing | 3.1 Occupational health and safety procedures, practices, policies and precautions are observed and followed, including the use of personal protective equipment . |
| | | 3.2 Maintain cleanliness and hygiene according to enterprise work procedures. |
| | | 3.3 Maintain any quarantine procedures as instructed by supervisor to minimise the spread of disease. |
| | | 3.4 Maintain thorough personal hygiene practices in all activities associated with handling animals, including reducing risks from diseases transmissible to humans. |
| | | 3.5 Dismantle and clean equipment and correctly replace |

- fittings.
- 3.6 Take **pest and vermin control** measures when necessary.
 - 3.7 Dispose of all waste and debris is disposed of, and deal with run-off, according to public health hygiene standards and enterprise work procedures.
 - 3.8 Safely carry out routine prevention procedures for disease or parasite infestation.
- 4 Implement and record control strategies
 - 4.1 Report any disease incidence or animal losses to the supervisor so that corrective action can be taken.
 - 4.2 Plan and implement preventative strategies and quarantine measures to prevent spread of disease, if required.
 - 4.3 Maintain and enter records in a clear and accurate fashion according to enterprise guidelines and legal requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Permaculture principles and ethics
- Animals common to permaculture systems in a given region or system
- Role or niche of animal/s in system and interrelationship with other animals, plants or systems.
- Principles of animal feeding and nutrition
- Principles of animal health, welfare and care
- Symptoms of ill-health in animals
- Legislation and regulations relating to animal health and welfare
- Signs of animal fear/aggression and stress
- Handling of animals
- Safe handling of sick and dead animals
- Relevant occupational health and safety legislation, regulations and codes of practice

Essential skills:

Ability to:

- Maintain animal health and welfare
- Provide an optimal environment for animals
- Establish and maintain hygiene of animal housing
- Feed and water animals
- Handle animals safely and humanely
- Move animals to different housing or pastures when necessary

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. Add any 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.

Regular checks may include:

- daily inspection of animals
- daily checks on watering systems
- daily checks on predator protection
- regular health or parasite inspections
-

Welfare may include but is not limited to:

- handling of animals
- water suitable for their needs
- food appropriate for physiological requirements of animals
- vaccination to prevent disease
- protection from predators
- protection or adaptation for prevailing weather conditions
-

Animals common in a permaculture system may include but are not limited to:

- poultry
- goats
- sheep
- pigs
- cattle
- rabbits
- guinea pigs
- alpacas
- horses
- dogs
- fish
- bees
- worms

Enterprise work procedures may include:

- animal welfare codes
- procedures based on sound permaculture practices
- carrying out supervisor's/client's oral or written instructions
- following enterprise policy and guidelines
- enterprise Standard Operating Procedures (SOP)
- specifications
- producing routine maintenance schedules
- work notes
- product labels
- Material Safety Data Sheets (MSDS)
- manufacturers service specifications and operators' manuals
- waste, recycling and re-use guidelines
- OHS procedures

Optimal environment may include but is not limited to:

- appropriate housing
- sufficient range area
- appropriate group sizes
- appropriate stocking rates
- appropriate cohabitation of species
- nutritious feed
- water at correct temperature and quality
- appropriate protection from weather

Occupational health and safety may include:

- safe handling of animals
- prevention of disease and pest infestation
- provision of adequate housing needs for animals
- hygiene practices with regard to animals and animal wastes

Personal protective equipment may include:

- hat
- boots
- overalls
- high visibility vest
- gloves
- sunscreen lotion
- hard hat

Cleanliness and hygiene may include:

- protection of feeding and watering systems from contamination by animal wastes and pests
- cleaning or refreshing of animal bedding, stalls, coops and roosts
- disposal or recycling of animal wastes
- separation of sick or infected animals from healthy animals
- use of organic and natural products to deter pests

Pest and vermin control may include:

- cleanliness and hygiene measures as above
- use of organic and natural products to deter pests, boost animal immunity or treat infestations

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a

number of occasions.

- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace

Access and Equity Considerations

- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

QLD842IPA08B

Unit Descriptor

Harvest permaculture crops

This unit provides the skills and knowledge required to harvest permaculture crops. It requires knowledge of common crops used in permaculture systems, recognition of the maturity parameters of crops, grading characteristics, maintaining quality of produce, and the effect of adverse weather conditions.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills
The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture farm or garden work and involves the application of skills and knowledge at the upper high school level or at the level of farm hand or assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

- | | | |
|---|----------------------------------|---|
| 1 | Assess plants for harvest | 1.1 Determine crop maturity according to permaculture practices and enterprise work requirements . |
| | | 1.2 Report maturity assessment to supervisor . |
| 2 | Prepare equipment for harvesting | 2.1 Select tools, equipment and machinery appropriate to the task being undertaken. |
| | | 2.2 Carry out pre-operational and safety checks on tools, equipment and machinery according to manufacturers specifications and enterprise work requirements. |
| | | 2.3 OHS hazards are identified, risks assessed and reported to the supervisor. |
| | | 2.4 Select, use and maintain suitable personal protective equipment (PPE). |
| 3 | Harvest the <i>crop</i> | 3.1 Harvest the crop in an efficient way according to enterprise work requirements. |
| | | 3.2 Harvest crop according to OHS requirements. |
| | | 3.3 Sort and grade the crop according to enterprise work requirements. |
| | | 3.4 Clean and maintain harvesting tools, equipment and machinery according to enterprise work requirements. |
| | | 3.5 Report any problems to the supervisor. |
| 4 | Complete crop harvesting work | 4.1 Safe manual handling techniques are employed when handling containers. |
| | | 4.2 Move and stack containers in such a way as to minimise damage to the crop. |
| | | 4.3 Maintain temperature of the crop at the levels set by enterprise work requirements. |
| | | 4.4 Transport crop from the field to the processing or storage |

area.

4.5 Maintain containers in good working order.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Permaculture principles and ethics.
- Principles of sustainable horticultural practices.
- Crops and harvesting systems common in permaculture systems.
- Harvesting techniques
- Equipment and machinery used in harvesting
- Storage, transportation and grading of crops.
- Methods of waste disposal causing minimal impact on the environment

Essential skills:

Ability to:

- Prepare for harvesting
- Carry out harvesting operations
- Maintain harvesting equipment

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. Add any 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.

Maturity may include:

- size
- weight
- length
- shape
- colour
- ripeness
- texture
- skin condition
- ease of removal
- moisture content

Enterprise work procedures may include:

- supervisors oral or written instructions
- harvest program or schedule
- enterprise standard operating procedures (SOPs)
- Health Department Regulations
- specifications
- routine maintenance schedules
- work notes
- manufacturers service specifications and operators manuals
- waste disposal, recycling and re-use guidelines
- OHS procedures

Supervisor may include:

- Work-site co-ordinator
- Foreperson
- Manager
- Employer
- Trainer
- Owner
- Client

Tools, equipment and machinery may include:

- secateurs
- knives
- calipers or sizing rings
- specification charts or aids
- gloves
- bags
- ladders
- wheelbarrows
- tractors
- trailers
- containers
- buckets
- cut-and-catch devices
- bins

OHS hazards may include:

- manual handling
- ladders
- solar radiation
- dust
- noise
- pollen
- pests
- sharp hand tools and equipment
- moving machinery and vehicles
- slippery or uneven surfaces
- potholes
- insect, animal and snake bites and stings

Personal protective equipment may include:

- boots
- overalls
- gloves
- goggles
- face mask
- hearing protection
- sun hat
- sunscreen lotion

Crop may include but are not limited to:

- Fruit
- nut
- grain
- vegetable
- flower
- foliage
- timber
- bulbs

Harvest may include:

- correct use of equipment
- select picking
- reporting or recording tallies
- removing out-of-type plants
- removing rotten or immature fruit
- Plant and crop damage may be minimised by:
 - wearing gloves
 - maintaining sharp tools
 - placing rather than dropping the crop into containers
 - cutting fingernails
 - observing fill heights or packing instructions for containers
- correctly stacking containers

Sort and grade may include:

- removing out-of type plants
- removing physically damaged, unhealthy, rotten or immature fruit and vegetables
- The crop may be graded according to variety, size, length, colour, maturity, blemishes, bud count and quality, which are subject to seasonal and market forces.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for

the particular AQF level

- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace

Access and Equity Considerations

- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

QLD842IPA09B

Recognise characteristics of integrated plant and animal systems

Unit Descriptor

This unit provides the skills and knowledge required to recognise integrated plant and animal systems and their roles in permaculture design.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills
The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture farm or garden work and involves the application of skills and knowledge at the upper high school level or at the level of farm hand or assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

- | | | |
|---|--|---|
| 1 | Recognise <i>plants and animals</i> | 1.1 Make a brief description of plant and animal habits, plant characteristics, animal characteristics and significant features and record according to supervisors instructions. |
| | | 1.2 Recognise plants and animals used in permaculture systems and name them according to their identifiable characteristics . |
| | | 1.3 Consult the supervisor for clarification when necessary. |
| | | 1.4 Determine interconnectedness of plants and animals in permaculture systems according to permaculture principles and practices . |
| 2 | Describe functions of integrated systems in permaculture | 2.1 Recognise inputs, outputs and intrinsic features of plants and animals in integrated permaculture systems. |
| | | 2.2 Describe functions of integrated systems with reference to a permaculture plan of an actual site . |
| | | 2.3 Record and report information on integrated plant and animal systems. |

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Permaculture principles and ethics
- Animals and plants common to permaculture systems in a given region or bioregion
- Role or niche of animal/s in system and interrelationship with other animals, plants or systems.
- Principles relating to integrated plant and animal systems

Essential skills:

Ability to:

- Recognise animals and plants
- Name animals and plants by common name
- Produce a simple report

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. Add any 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.

Plants and animals must include:

- Plants and animals commonly encountered in a permaculture system

Plants and animals may include:

- plants with useful properties (food, fuel, fibre, medicinal, dyes, shade, habitat etc)
- animals with functions in the system
- native/wild animals and plants
- pest/feral plants and animals
- insects, fish, birds and reptiles both friend and foe

Plant characteristics may include:

- shape
- size
- colour
- texture
- presence of hairs and spikes on leaves, stem, fruit, flower or seed

Animal characteristics may include:

- shape
- size
- colour/markings
- breed characteristics
- texture/feel
- hair/fur/feathers/scales
- movement
- habitat
- behaviour

Supervisors may include:

- Team leader
- Work-site co-ordinator
- Trainer
- Employer
- Manager
- Site supervisor
- Foreperson

Name may include:

- common names for plants and animals
- in some situations scientific names may be required

Identifiable characteristics may include:

- visible characteristics
- smell
- taste
- behaviour
- sound made (such as bird call)
- texture (e.g. wool/hair texture)

Interconnectedness may include:

- ways in which parts of the system support each other
- ways that plants help animals and animals help plants
- ways of combining plant communities for companion action, such as guilds
- ways of using animals to do 'work' such as mowing or pest control

Permaculture principles may include:

- Principles as defined by David Holmgren in *Permaculture Principles and Pathways beyond Sustainability* and/or Bill Mollison *Permaculture: A Designers Manual*

Practices may include:

- practices which conserve energy and resources
- protecting water, soil and other resources
- obtaining a yield
- preserving heritage or heirloom varieties (biodiversity)
- re-using or adapting materials for other functions
- making use of vertical space
- creating multiple functions for the same thing
- using nature as the model
- seed-saving

Inputs, outputs and intrinsic may include:

- characteristics identified by doing a needs analysis
- inputs are needs of an element, outputs are its yields and the intrinsic features are innate or typical features of the species, breed or variety
- permaculture design always aims to meet the needs of elements within a system

Permaculture plan may include:

- Design for site drawn up by a permaculture designer
- mud-map or rough plan as long as it includes all information relevant to the project at hand
- Instructions for implementing a project

Actual site may include:

- A real site, not a scenario or fictitious site

Record and report may include:

- verbal report
- written report
- contribution of data to a chart/board or shared document – both physical and electronic
- worksheet or assessment task

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.

- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace

Access and Equity Considerations

- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

QLD842COM10B

Unit Descriptor

Operate within community projects

This unit provides the skills and knowledge required to operate within community projects including the ability to gather information about communities and social structures, cultural customs and heritage of indigenous or other minority groups, and reading project plans and programs.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills

The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture or community work and involves the application of skills and knowledge at the upper high school level or at the level of assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

1 Gather information about the community and community projects

1.1 Research major **characteristics of the community**.

1.2 Identify features and impact of community projects.

1.3 Define local land ownership, use and management issues.

1.4 Determine community traditions and customs.

1.5 Define **main issues and trends** impacting on community.

1.6 Determine relationship of community project with a permaculture system or community.

2 Assist in project preparation

2.1 Participate in community consultation.

2.2 Obtain tools, equipment and resources for project and prepare them for use.

2.3 Confirm work schedules and programs with **supervisor**.

2.4 Identify any issues relating to project completion with supervisor and address these while planning.

3 Work within a community project

3.1 Observe **community protocols** according to community and/or organisational guidelines and work procedures.

3.2 Respect community traditions and customs and reflect in organisational work procedures.

3.3 Complete project work on schedule and in cooperation with community.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Permaculture principles and ethics
- Communities and social structures.

- Cultural customs and heritage of indigenous or other minority groups
- Reading project plans and programs

Essential skills:

Ability to:

- Gather information about the community and community projects
- Assist in project preparation
- Work within a community project

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. Add any 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.

Characteristics of the community may include:

- Living arrangements
- patterns of daily life
- roles of men, women and children, class structures
- predominant language used
- main economic activities
- main transport systems used
- main information systems used
- predominant religion or spiritual beliefs
- main system of law and order
- main type of government
- main social upheavals experienced over specified periods of time
- main problems experienced by the society over specified periods of time

Main issues and trends may include:

- health
- housing
- land rights
- schooling and education levels
- economics
- town planning
- transport
- leisure activities
- employment

Supervisor may include

- Team leader
- Community leader
- Trainer
- Employer
- Manager
- Site supervisor
- Foreperson

Community protocols may include but are not limited to:

- recognition of authority
- taboos
- religious or other belief sensitivities
- economic sensitivities
- issues of trust

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and specific resources

- Competency is demonstrated by performance of all stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement
- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence

should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations

- Assessment of this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace

Access and Equity Considerations

- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.

QLD842IPA11B

Recognise threats and create opportunities in a permaculture system

Unit Descriptor

This unit provides the skills and knowledge required to recognise and minimise threats and create opportunities in a permaculture system using observation, permaculture practices, cultural, biological and other appropriate methods.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills

The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements

Application of the Unit

This unit applies to permaculture farm or garden work and involves the application of skills and knowledge at the upper high school level or at the level of farm hand or assistant within community programs.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised text** is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

- | | | |
|---|--|---|
| 1 | Assess threats to permaculture system | 1.1 Recognise plant pests, diseases and disorders which impact on permaculture systems.
1.2 Identify threats from weather conditions and extreme weather events on permaculture systems.
1.3 Determine other environmental situations that may impact on permaculture systems.
1.4 Determine interrelationships between weedy plants , pests, diseases or disorders and weather or environmental conditions.
1.5 Record details of threat occurrences and report to the supervisor .
1.6 Recognise treatment or response methods, or opportunities, in consultation with the supervisor.
1.7 OHS hazards are identified, risks assessed and reported to the supervisor. |
| 2 | Apply treatments to reduce impact of threats | 2.1 Select, use and maintain suitable personal protective equipment (PPE).
2.2 Prepare treatments or responses to threats or consider opportunities according to supervisors instructions and enterprise work procedures .
2.3 Apply treatments in such a way that non-target damage is minimised. |
| 3 | Carry out post-treatment operations | 3.1 Carry out post-treatment operations with full consideration of environmental impacts
3.2 Treat, recycle or dispose of waste materials in an environmentally aware and safe manner according to enterprise work procedures.
3.3 Maintain records according to enterprise work procedures. |

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Essential knowledge:

- Permaculture principles and ethics
- Creative solutions to common problems in a permaculture system
- Common weedy plants, plant pests, diseases and disorders for a particular enterprise/situation.
- Common environmental impacts on permaculture systems.
- Relationships between pests/diseases, predator organisms and environmental conditions
- Weather conditions and their impact on permaculture systems.
- Fire, flood, tsunami behaviours and precautions relevant to the permaculture system
- Different types of treatments or system modifications and their principles.
- Environmental considerations when applying treatments

Essential skills:

Ability to:

- Assess threats to permaculture system
- Explore opportunities for the permaculture system
- Apply treatments to reduce impact of threats
- Modify the system to take advantage of the solution to a potential threat
- Carry out post treatment operations

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. Add any 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.

Weather conditions may include:

temperature
humidity level
precipitation
wind speed and direction
extremes of weather

Other environmental situations may include:

fire
flood
tsunami or other natural disaster
pest, disease or vermin attack
rare or unusual plants or animals or habitat for these

Weedy plants may include:

- plants that have the potential to be a threat to the permaculture system or to the natural environment
- plants that present a potential risk for the enterprise, industry or environment.
- plants that grow in great abundance and may need to be controlled
- plants that reduce the target yields of the permaculture designed system
- plants that are notifiable to authorities.

plants that are part of a local, regional, State or national control strategy

Supervisor may include:

- Work-site co-ordinator
- Foreperson
- Manager
- Employer
- Trainer

Treatment may include but are not limited to:

- the application of non-chemical controls including sprays with organic or natural ingredients
- the application of cultural control methods
- incorporating an animal system to control the undesired plants e.g. use of chicken or pig tractors
- shading out infested areas by tree crops or forest
- biodynamic treatments and control measures
- composting
- follow-up strategies to be used after weed removal

OHS hazards may include:

- manual handling
- ladders
- solar radiation
- dust
- noise
- pollen
- pests
- sharp hand tools and equipment
- moving machinery and vehicles
- slippery or uneven surfaces
- potholes
- insect, animal and snake bites and stings

Personal protective equipment may include:

- boots
- overalls
- gloves
- goggles
- face mask
- hearing protection
- sun hat
- sunscreen lotion

Enterprise work procedures may include:

- procedures based on sound permacultural and horticultural principles and practices
- supervisor's oral or written instructions
- plant establishment program
- enterprise standard operating procedures (SOPs)
- specifications
- routine maintenance schedules
- work notes
- product labels
- Material Safety Data Sheets (MSDSs)
- manufacturers' service specifications and operator's manuals
- waste disposal
- recycling and re-use guidelines
- OHS procedures

Environmental impacts may include:

Beneficial environmental impacts:

- reduced and informed targeting of organic chemicals
- soil improvement
- recycling within the system
- minimal escape of contaminants to the external environment
- improved production
- healthier ecosystems
- more efficient water and nutrient utilisation
- reduced weed numbers
- the minerals accumulated by the weeds can be returned to the soil

Detrimental environmental impacts:

- excess noise, dust or water
- seed dispersal during and after mechanical removal of weeds
- systems do not function effectively because of inadequate implementation techniques and/or poor design
- Weed removal may lead to the destabilisation of land on a slope or across which water will flow in heavy rain.
- left over plant material may be a fire hazard.

Records may include:

- observations of predator-pest balance
- weather observations and measurements
- observations of natural cycles, flowering times and insect/bird/pest incidence
- details of any treatments applied
- details of any cultural methods used
- relationships between pest or weed and natural environment

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The assessee must provide evidence of specified essential knowledge as well as skills.
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace.
- Where for reasons of safety, safety space or access to equipment and resource, assessment takes place away from the workplace the assessment environment should represent realistic workplace conditions as closely as possible.

Context/s of Assessment and

- Competency is demonstrated by performance of all

specific resources

stated criteria, including paying particular attention to the critical aspects and the knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statement

- Assessment of performance requirements in this unit should be undertaken in an actual workplace or in a realistically simulated environment
- Assessment should reinforce the integration of the key competencies and the common competencies for the particular AQF level
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace
- Resources for the assessment include:
 - access to SKOPE sheets developed for this unit to reinforce complete understanding in aid of achieving the most positive outcomes.
 - access to relevant Permaculture texts and audio-visual material.
 - access to a working permaculture site for practical study purposes.

Method of assessment

- While the knowledge can be tested in written and oral assignments, performance evidence needs to be collected in actual or realistic simulated situations. It also needs to be assessed on a number of occasions.
- This unit is best undertaken in a workplace or in a realistically simulated workplace situation.

And must include (verbal and /or written) to address essential knowledge as outlined in this unit

- Written evidence
- Verbal evidence
- Group interaction
- Recorded evidence
- In order to achieve consistency of performance, evidence should be collected over a set period of time which is sufficient to include dealings with an appropriate range and variety of situations
- Assessment if this unit will be undertaken by a registered training organisation
- Assessment of knowledge must be conducted through appropriate written/oral examination
- Practical assessment must occur:
 - ~ through appropriately realistically simulated activities at the RTO, and/or
 - ~ in an appropriate range of situations in the workplace
- The learner and trainer should have access to appropriate documentation and resources normally used in the workplace

***Access and Equity
Considerations***

- All workers in this industry should be aware of access and equity issues in relation to their own area of work.
- All workers should develop their ability to work in a culturally diverse environment.