



Australian Government

AHCPER325 Mitigate plant pests, diseases and disorders in a permaculture system

Release: 1

AHCPER325 Mitigate plant pests, diseases and disorders in a permaculture system

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to identify healthy permaculture systems and recognise the pests, diseases and disorders requiring an integrated management design solution for managing potential infestations for a permaculture system.

The unit applies to individuals who work under broad direction and take responsibility for their own work, including limited responsibility for the work of others. They use discretion and judgement in the selection and use of available resources, and complete routine activities.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Permaculture (PER)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify possible pests, diseases and disorders for permaculture system	1.1 Identify pests, diseases and disorders common to plants grown in the permaculture system 1.2 Identify conditions conducive to development of pests, diseases and disorders 1.3 Identify beneficial organisms that control pests, diseases and

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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	disorders
2. Develop pest, disease and disorder programs for permaculture system	2.1 Investigate prevention strategies for pests, diseases and disorders affecting permaculture system 2.2 Investigate control strategies for pests, diseases and disorders affecting permaculture system 2.3 Select control and prevention strategies best suited to permaculture system 2.4 Document prevention and control programs for permaculture system
3. Monitor permaculture system for pests, diseases and disorders	3.1 Monitor conditions that contribute to pests, diseases or disorders 3.2 Monitor plants for symptoms of pests, diseases or disorders 3.3 Identify pest, disease or disorder from observed symptoms 3.4 Identify tolerable threshold of damage from pests, diseases and disorders 3.5 Monitor beneficial organisms to support control of pests, diseases and disorders 3.6 Record observations according to workplace procedures
4. Implement pest, disease and disorder prevention program	4.1 Implement biosecurity procedures to mitigate pests and disease transfer during permaculture operations 4.2 Recognise onset of conditions conducive to development of pests, diseases and disorders 4.3 Manipulate habitat and microclimate conditions to encourage beneficial organisms 4.4 Manipulate environment to prevent conditions conducive to pests, diseases and disorders 4.5 Investigate and mitigate effects of prevention program on other elements within permaculture system 4.6 Implement permaculture practices to minimise pests, diseases and disorders according to permaculture system design 4.7 Record prevention activity according to workplace procedures
5. Implement pest, disease and disorder control program	5.1 Identify when pest, disease or disorder exceeds tolerable threshold for permaculture system 5.2 Select control method according to permaculture principles and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	organic standards 5.3 Implement control method, ensuring minimal impact on other permaculture elements 5.4 Record control activity according to workplace procedures
6. Monitor and record the management of plant pests, diseases and disorders	6.1 Compile records from pest, disease and disorder control and prevention activity 6.2 Examine records and formulate patterns of infestation and infection 6.3 Document patterns of infestation and infection for permaculture system 6.4 Review prevention and control programs in consideration of records and formulated patterns

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Foundation Skills essential to performance are explicit in the Performance Criteria of this unit of competency.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCPER325 Mitigate plant pests, diseases and disorders in a permaculture system	AHCPER320 Manage plant pests, diseases and disorders in a permaculture system	Title change Minor change to Application Addition of Element for control programs Changes to Performance Evidence, Knowledge Evidence and Assessment Conditions for clarity	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCPER325 Mitigate plant pests, diseases and disorders in a permaculture system

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has implemented prevention and control programs to mitigate the effects of pests, diseases and disorders on a permaculture system and has:

- identified potential pests, diseases and disorders and their preferred conditions for a permaculture system
- identified and monitored beneficial organisms for prevention and control of pests, diseases and disorders
- developed prevention and control programs for pests, diseases and disorders
- monitored conditions conducive to pests, diseases and disorders, including:
 - soil moisture
 - weather conditions
 - nutrients
- monitored permaculture system and identified pests, diseases and disorders and the tolerable threshold for each
- implemented a pest, disease and disorder prevention program, and monitored impact on other permaculture elements
- investigated methods of managing pests, diseases and disorders in a permaculture system
- recognised when tolerable threshold has been exceeded for infestation/infection
- implemented control program according to organic and permaculture standards
- maintained records and formulated patterns of pest and disease control operations for updating prevention and control programs, which must include:
 - pest disease or disorder name, type and cause
 - weather/environmental conditions conducive for development
 - date and actions taken in prevention and control program activity
 - infection/infestation thresholds for plants in the permaculture system.
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Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- permaculture and organic principles and practices related to managing plant pests, diseases and disorders
- principles of maintaining healthy crops in a permaculture system, including:
 - companion planting
 - increasing diversity
 - providing habitat and food for pests' natural predators
 - healthy, balanced soil
 - planting for insectivorous birds, lizards, frogs and microbats
 - minimal use of soluble fertilisers
- permaculture and organic systems control methods, including:
 - deterrent organic sprays
 - pheromone traps and lures
 - biological controls using predatory, parasitic insects and mites
 - nutrient additives
 - companion planting
 - crop rotation and succession planting
 - covers and netting
 - *Bacillus thuringiensis* (BT) and other action-specific microorganisms
- common pests, diseases and disorders affecting plants in a permaculture system, including:
 - symptoms of disease and disorders
 - soil conditions, weather and environmental conditions supporting infection/infestation
 - common names
 - infestation/infection threshold affecting produce
 - stages of development of pest organisms and signs of pest presence on plants and animals
 - fungal, bacterial and viral infestations and their symptoms
 - disease vectors and plants that harbor them
- preventing and controlling pests, diseases and disorders in enclosed environments, including:
 - greenhouses and shade house
 - closed canopy
 - manipulating microclimate
- workplace health and safety policies and procedures
- biosecurity procedures to prevent transferring infections/infestations in the system
- importance of record-keeping to build understanding of pests and disease development, prevention and control.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on an operational permaculture system or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - reference materials
 - tools and equipment
 - recording systems
 - treatments and biological agents
- specifications:
 - workplace procedures and processes
 - safety data sheets
 - specifications for infestation/infection threshold
 - specific organic and permaculture standards.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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