

<b>Title</b>	<b>Demonstrate knowledge of amenity tree health problems</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	People credited with this unit standard are able to: describe trees' natural responses to pests, disease causing organisms, disorder causing factors, and stress; and demonstrate knowledge of: common amenity tree diseases, pests and disorders; common non-disease causing fungi associated with trees; and quarantine legislation for pest and disease control for amenity trees.
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<b>Classification</b>	Horticulture > Arboriculture
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Legislation and references relevant to this unit standard includes but is not limited to:
  - Biosecurity Act 1993;
  - Hazardous Substances and New Organisms Act 1996;
  - Health and Safety at Work Act 2015;
  - Resource Management Act 1991;
  - Ferro, D. N., (1977). *Standard Names for Common Insects of New Zealand*, Bulletin of the Entomological Society 4. Auckland: Entomological Society of New Zealand;
  - Hood, I. A. (1992). *An Illustrated Guide to Fungi on Wood in New Zealand*. Auckland: Auckland University Press;
  - Lucas, R. (2005). *Managing Pests and Diseases: A Handbook for New Zealand Gardeners*. Nelson: Craig Potton; and any subsequent amendments.
  
- 2 Definitions
 

*Signs* – the indication of the presence of tree pests, tree diseases or tree disorders.

*Symptoms* – the plant's response to the presence of pests, disease or disorder.

*Tree disease* – a growth symptom that develops in response to infection from a pathogen.

*Tree pest* – an undesirable organism that is injurious to trees.

*Workplace procedures* – the policies and procedures on safety and operation set down by the employer or organisation, which should reflect industry best practice, the BPG, equipment manufacturer's requirements, and current legislation.
  
- 3 For the purposes of assessment:
  - evidence for outcome 4 must be presented in accordance with workplace procedures.

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## Outcomes and performance criteria

### Outcome 1

Describe the natural responses of trees to pests, disease causing organisms, disorder causing factors, and stress.

#### Performance criteria

- 1.1 Describe normal wound reaction in trees in terms of immediate and long-term responses to damage caused by pests, diseases or disorders.
- 1.2 Describe natural tree responses to stress in terms of immediate and long term responses.

### Outcome 2

Demonstrate knowledge of common diseases of amenity trees.

Range evidence of at least ten amenity tree diseases is required.

#### Performance criteria

- 2.1 Describe common signs or symptoms of disease found in amenity trees that could be used to make a diagnosis.
- 2.2 Inspect infected trees and their environment to identify signs or symptoms of disease and identify common names for those diseases that are identified.
- 2.3 Describe life cycles of amenity tree disease in terms of vulnerable points that allow for control.

### Outcome 3

Demonstrate knowledge of common pests of amenity trees.

Range evidence of at least ten amenity tree pests is required.

#### Performance criteria

- 3.1 Describe common signs or symptoms of pests found in amenity trees that could be used to make a diagnosis.
- 3.2 Inspect affected plants to identify pests, and signs of their presence, and identify common names for those pests that are identified.
- 3.3 Describe pests' life cycles in terms of vulnerable points that allow for control.

**Outcome 4**

Demonstrate knowledge of common amenity tree disorders.

Range may include but is not limited to – animal damage, bark wounds, chemical damage, codominant leaders, drought, flush pruning cuts, frost, gas leakage, graft incompatibility, hail damage, high voltage electricity, included bark, machinery damage, nutrient deficiencies, nutrient toxicity, over thinning, poor form, root disturbance, saline winds, soil compaction, sunburn, waterlogged soil, water pockets, wind;  
evidence of at least five is required.

**Performance criteria**

- 4.1 Inspect trees with common disorders and identify their causes.
- 4.2 Describe correction methods used to minimise damage to the trees that occur as a result of the disorder.

**Outcome 5**

Demonstrate knowledge of common non-disease causing fungi associated with trees.

**Performance criteria**

- 5.1 Identify and describe fungi and host associations in terms of their beneficial effects.
- Range saprophytic decay fungi, mycorrhiza, sooty mould.
- 5.2 Describe measures to encourage naturally occurring beneficial fungi.

**Outcome 6**

Demonstrate knowledge of quarantine legislation for pest and disease control for amenity trees.

**Performance criteria**

- 6.1 Describe New Zealand's quarantine system and biosecurity legislation in terms of how they affect the movement of plant material into and around New Zealand.
- 6.2 Identify tree pests and diseases in terms of those for which quarantine is of particular importance.
- Range evidence of least three pests and diseases is required.

<b>Planned review date</b>	31 December 2025
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 January 1995	31 December 2019
Revision	2	24 February 1997	31 December 2019
Review	3	23 November 1999	31 December 2019
Revision	4	13 February 2002	31 December 2019
Revision	5	24 February 2006	31 December 2019
Review	6	11 December 2009	31 December 2019
Review	7	26 April 2018	31 December 2023
Review	8	25 March 2021	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0032
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

#### Comments on this unit standard

Please contact the Primary ITO [standards@primaryito.ac.nz](mailto:standards@primaryito.ac.nz) if you wish to suggest changes to the content of this unit standard.