

<b>Title</b>	<b>Identify and describe plant pests, diseases, and disorders, and methods of prevention and control</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>8</b>

<b>Purpose</b>	<p>This unit standard is for people working in specified sectors that require knowledge of plant pests, diseases, and disorders.</p> <p>People credited with this unit standard are able to: identify a range of plant pests, diseases, and disorders for a specified sector based on their signs and symptoms; describe the life cycles of plant pests and plant diseases, and the environmental factors that contribute to disease opportunity; and describe plant pest, plant disease, and plant disorder prevention and control methods, relevant to a specified sector, and precautions for their use.</p>
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<b>Classification</b>	Primary Sector > Plant Pest, Weed, and Disease Control
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<b>Available grade</b>	Achieved
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## Guidance Information

- 1 Legislation and regulations relevant to this unit standard include but are not limited to:
  - Hazardous Substances and New Organisms Act 1996;
  - Agricultural Compounds and Veterinary Medicines Act 1997;
  - Biosecurity Act 1993;
  - Resource Management Act 1991;
  - local regional and territorial authority regulatory requirements.
- 2 Definitions
 

*Plant pest* – an undesirable organism injurious to humans or plants.

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

*Plant disorder* – a plant growth response to an abiotic factor such as nutrient deficiency, weather or herbicide damage.

*Signs* – indication of the presence of the plant pest, plant disease, or plant disorder.

*Symptoms* – the plant's response to the presence of the plant pest, plant disease, or plant disorder.
- 3 Range
 

*Specified sector* may include but not limited to agriculture, aquatic, broadacre, equine, forestry, horticulture, amenity turf, sports turf, weed and vegetation control.

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## Outcomes and performance criteria

### Outcome 1

Identify a range of plant pests, diseases, and disorders for a specified sector based on their signs and symptoms.

Range evidence is required for a total of ten plant pests, diseases, and disorders relevant to the specified sector, with at least two examples from each.

### Performance criteria

1.1 Identify the presence of plant pests, plant diseases, and plant disorders for a specified sector by the signs and visible symptoms on the plants.

### Outcome 2

Describe the life cycles of plant pests and plant diseases, and the environmental factors that contribute to disease opportunity in a specified sector.

Range evidence is required for at least two pests and two diseases relevant to a specified sector.

### Performance criteria

2.1 Describe the stages of plant disease life cycles in terms of the sequence, the signs and the symptoms of plant infection, timing of infection, and ability to control.

Range evidence of two disease life cycles.

2.2 Describe the stages plant pest life cycles in terms of the sequence, pest morphology, host species, mode of feeding, signs and symptoms of plant damage, and timing of infestation, and ability to control.

Range evidence of two pest life cycles.

2.3 Describe environmental factors in terms of contributing to pest and disease opportunity.

Range environmental factors may include – temperature, light, wind, precipitation, humidity, soil moisture, leaf wetness, thatch, soil pH, fertility, soil microorganisms, susceptible hosts, mechanical damage;  
evidence of at least one plant pest and one disease opportunity for four environmental factors.

2.4 Describe the disease triangle in terms of the relationships between its components, and the implications for plant disease prevention and control.

Range disease triangle components – pathogen, host, environment.

**Outcome 3**

Describe plant pest, plant disease, and plant disorder prevention and control methods relevant to a specified sector, and precautions for their use.

**Performance criteria**

3.1 Describe prevention and control methods for plant pest, plant disease, and plant disorder, and compare in terms of features, and explain suitability for a specified sector.

Range chemical, biological, cultural, physical, integrated pest management (IPM).

3.2 Describe precautions when using pest and disease prevention and control methods for a specified sector, in accordance with legislative requirements.

Range may include but is not limited to – pollinators, beneficial organisms, animals, humans; evidence is required for at least one; legislation – Hazardous Substances and New Organisms Act 1996, Agricultural Compounds and Veterinary Medicines Act 1997; Biosecurity Act 1993; Resource Management Act 1991.

<b>Planned review date</b>	31 December 2024
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	18 August 2011	31 December 2022
Review	2	28 November 2019	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0232
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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 Industry Training Organisation [standards@primaryito.ac.nz](mailto:standards@primaryito.ac.nz) if you wish to suggest changes to the content of this unit standard.