

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

Purpose	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 in a given sector; and describe plant pest, plant disease, and plant disorder prevention and control methods relevant to a specified sector, and precautions for their use.
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Classification	Primary Sector > Plant Pest, Weed, and Disease Control
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Available grade	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; and any subsequent amendments.

- 2 Definitions

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.

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

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 is not limited to agriculture, aquatic, broadacre, equine, forestry, horticulture, amenity, sports turf, weed and vegetation control.

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

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.

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 is required.

2.2 Describe the stages of 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 is required.

2.3 Describe environmental factors in terms of their contribution to plant 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 is required.

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 in terms of their suitability for a specified sector, and compare each in terms of their features.

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 of at least one is required; legislation – Hazardous Substances and New Organisms Act 1996; Agricultural Compounds and Veterinary Medicines Act 1997; Biosecurity Act 1993; Resource Management Act 1991.

Planned review date	31 December 2026
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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	31 December 2024
Review	3	27 January 2022	N/A

Consent and Moderation Requirements (CMR) reference	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 Muka Tangata - People, Food and Fibre Workforce Development Council qualifications@mukatangata.nz if you wish to suggest changes to the content of this unit standard.