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

Purpose
This unit standard is for people working in the primary sector who require knowledge of plant pests, diseases, and disorders.

People credited with this unit standard are able to: a range of plant pests, diseases, and disorders for a specified primary 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 primary sector, and precautions for their use.

Classification | Primary Sector > Plant Pest, Weed, and Disease Control

Available grade | Achieved

Explanatory notes

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;
   - 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.
   - *Legal requirements* – plant pest, disease, and disorder prevention and control carried out in response to legislative requirements which include but are not limited to the Biosecurity Act 1993.

3 Range
   - *Specified primary sector* may be any one of agriculture, equine, forestry, horticulture, amenity turf, sports turf.
Outcomes and evidence requirements

Outcome 1

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

Range evidence is required for a total of 10 plant pests, diseases, and disorders relevant to the specified primary sector, with at least two examples from each.

Evidence requirements

1.1 The presence of plant pests, plant diseases, and plant disorders for a specified primary sector are identified 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 primary sector.

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

Evidence requirements

2.1 Stages in plant pest, and plant disease life cycles are described in terms of the sequence and the symptoms of plant damage at each stage.

2.2 Plant pest life cycles are described in terms of host species, mode of feeding, growth pattern, damaging stage, and timing of host damage.

2.3 Plant diseases are described in terms of the environmental factors that contribute to disease opportunity.

Range environmental factors – temperature, light, humidity, soil moisture, leaf wetness, thatch, soil pH, fertility, soil microorganisms, susceptible hosts.

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

Range disease triangle components – fungus, host, environment.
Outcome 3

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

Evidence requirements

3.1 Prevention and control methods are described and compared in terms of their features, and their suitability for a specified primary sector is explained.

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

3.2 Precautions when using pest and disease prevention and control methods are described for a specified primary 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.

3.3 Prevention and control are described in terms of the legal requirements and implications.

Planned review date

31 December 2016

Status information and last date for assessment for superseded versions

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Consent and Moderation Requirements (CMR) reference

0232

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.
Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

**Comments on this unit standard**

Please contact the Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.