



Treat plant pests, diseases and disorders

AHCPMG202A

By the end of this topic, you should be able to:

- Prepare to treat plant pests, diseases and disorders
- Apply treatments to plant pests, diseases and disorders
- Carry out post treatment operation

Plant pests

- Plants can be affected by a number of pests. For example:



African Black Beetles



Cowpea aphids



Cutworm



Fire ants



Fruit fly



Mealybugs



Rutherglen bug



Snails

Some pests are of such concern that you are legally required to report sightings to the Government

Plant diseases

- Diseases in plants can be caused by micro-organisms, such as:

Bacteria	Fungi	Viruses	Nematodes
Causing: Blights: Chlorosis, browning and death of plant tissues (e.g. leaves, branches, twigs or flowers) Canker: Appearance of dead tissue Galls: Swollen masses of abnormal tissue Wilting: Loss of rigidity of non-woody parts of plants	Causing: Canker: Appearance of dead tissue Galls: Swollen masses of abnormal tissue Ink spot: Causes blackening of leaves and flower stems Mould/Mildew: White powdery spots Rot: Decay roots, stems, wood flowers, and fruit Rust: Brown pustules on the underside of leaves with yellow speckling on the upper leaf Wilting: Loss of rigidity of non-woody parts of plants	Causing: Canker: Appearance of dead tissue Distortion Scaling Yellowing	May transmit and acquire viruses by feeding on infected roots

- Plants may be afflicted with disorders, just like humans.
- Common plant disorders include:
 - Imbalance of moisture
 - Damage from ozone and salt
 - Soil toxicity

Reporting pests, diseases and disorders

- If you observe plant pests, diseases and/or disorders, you should report these to your supervisor.
 - Your supervisor can provide you with advice on appropriate treatment methods
 - Question and ask for clarification, as necessary
 - Apply active listening
- Be sure to record the following details:
 - Identification of the plant species affected
 - Signs and symptoms displayed and their severity
 - Environmental history in the area

Treatment methods

- There are a variety of treatment methods for plant pests, diseases and disorders, including:

Treatment method	Definition
Biological	Uses other animals and plants
Chemical	Includes: - Fungicides: Modes of action are contact and systemic - Herbicides: Modes of action are contact, systemic and translocated - Pesticides: Modes of action are contact, suffocating and systemic
Cultural	A preventative measure that works to keep the plant healthy and strong so that it can combat problems before they take hold
Mechanical	Uses physical barriers and traps to stop pests from reaching plants
Physical	Uses environmental extremes
Sanitary	Stops the spread of the problem (e.g. slash and burn)

- Always refer to the Safety Data Sheet (SDS) for any chemicals used. This document will outline:
 - The active constituent of the chemical and how it should be prepared
 - What the chemical treats (e.g. pests, diseases and disorders)
 - PPE requirements (e.g. face shield, PVC gloves, safety goggles)
 - Methods for dealing with spills, including who should be contacted
 - Disposal requirements

Applying treatments

- A backpack sprayer is a common applicator for chemical treatments.
 - It should be prepared according to the following steps:
 - Fill tank with water, closing caps taps and lids
 - Pump the handle to pressurise the tank
 - Look for leaks
 - Check the spray stream, making adjustments as required to avoid spray drift
- Be sure to also prepare plants for treatment, as necessary.
 - Your aim is to minimise non-target damage (e.g. by using guards or shields)

- The following documentation will outline how to prepare, use and maintain chemical application equipment:
 - Application/spray plan
 - Chemical labels
 - Enterprise guidelines
 - Legislative and regulatory requirements for chemical use
 - Codes of practice will provide guidance. For example, in Queensland refer to the following:
 - *Labelling of Workplace Hazardous Chemicals Code of Practice 2011*
 - *Managing Risks of Hazardous Chemicals in the Workplace Code of Practice 2013*
 - Manufacturer specifications

- As part of clean-up processes, you should:
 - Shut down, maintain, clean and store tools and equipment according to manufacturer's specifications
 - Report identified hazards and faults within a timely fashion
 - Dispose of materials that cannot be reused or recycled
 - Ensure you implement environmentally safe practices
 - Follow Safety Data Sheet (SDS) requirements

- Ensure that you record and report work outcomes to your supervisor
 - Complete enterprise records for the treatment(s) that have been applied to plants
 - Legislation will likely require that the following records are kept when applying chemicals:
 - Name of chemical and quantity used
 - Location of area treated
 - Date and time of application
 - Provide notes on the effectiveness of the treatment(s) applied
 - Ensure your records are clear - be mindful of people's varying backgrounds and abilities