



Australian Government

Department of Education, Employment and Workplace Relations

RTC3404A Control plant pests, diseases and disorders

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This competency standard covers the process of controlling plant pests, diseases and disorders taking into consideration integrated pest management options. Implementation is likely to be under limited supervision from others with checking only related to overall progress.

Responsibility for and limited organisation of the work of others may be involved.

Implementation requires the application of knowledge in areas such as pests and disease recognition, lifecycles, biology and control, and predators and hosts.

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Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

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Element	Performance Criteria
1 Assess pests and disease infestation	1.1 Scope and size of the infestation is assessed. 1.2 Plant pests, diseases and disorders and beneficial organisms are identified and reported or recorded in field notes. 1.3 Levels of pest infestations tolerated by the client, market or environment are identified from the integrated pest management (IPM) strategy. 1.4 Infestation levels, above which plant health or growth objectives are compromised, are identified. 1.5 Professional advice is obtained as required according to enterprise guidelines.
2 Plan the implementation of control measures	2.1 Control measures suitable for the infestation are selected from IPM strategy. 2.2 Tools, equipment and machinery are selected for each work activity according to enterprise work procedures. 2.3 OHS hazards are identified, risks assessed, controls implemented and reported to the supervisor. 2.4 Suitable safety equipment and personal protective equipment (PPE) are selected, used, maintained and stored. 2.5 Control measures selected need to be in full consideration of OHS and environmental implications.
3 Implement control measures	3.1 Enterprise work team, contractors and IPM product suppliers are coordinated in a sequential, timely and effective manner in consultation with the supervisor. 3.2 Control measures are implemented according to the IPM standards or industry Code of Practice. 3.3 Implementation of IPM activities is undertaken

according to **OHS requirements**.

- 3.4 A **clean and safe work area** is maintained throughout and on completion of each work activity.
- 3.5 **Records** are maintained as required by legislation and enterprise guidelines.
- 4 Monitor control methods
 - 4.1 Control methods are monitored to identify side effects to other plants, animals or external environment.
 - 4.2 Effectiveness of control methods are assessed in reference to specified industry, OHS and enterprise standards.
 - 4.3 Adjustments to IPM control methods are implemented where necessary to meet enterprise specifications.

Required Skills and Knowledge

Not applicable.

Evidence Guide

What evidence is required to demonstrate competence for this standard as a whole?

Competence in implementing an integrated pest management (IPM) program requires evidence that the person is able to prepare for IPM activities, coordinate work activities, and monitor and apply control methods to pests or diseases within the parameters of IPM standards and specifications. The skills and knowledge required to control plant pests, diseases and disorders must be **transferable** to a different work environment. For example, this could include different plant pests, diseases and disorders, enterprise situations and control methods.

What specific knowledge is needed to achieve the performance criteria?

Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:

Pests and disease recognition.

Economic, aesthetic or environmental thresholds for a range of plant pests, diseases and disorders.

Chemical, biological and cultural control methods and treatments available to the enterprise within the parameters of an IPM program.

Range and use of tools, equipment and machinery available to the enterprise for implementing the control measures.

Range of site monitoring and analysis techniques that may be used to implement an IPM program.

Association of IPM methods with site limitations, environmental implications, end market and production or environmental objectives for the site.

OHS responsibilities for employees and employers.

OHS procedures.

OHS legislative requirements including hazardous substances regulations and Codes of Practice.

Correct wearing/fit of personal protective equipment.

What specific skills are needed to achieve the performance criteria?

To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complementary skills are required. These include the ability to:

Recognise of a range of pests, diseases and beneficial organisms within a particular enterprise.

Communicate with work team members, supervisors, contractors and consultants.

Interpret and apply the Integrated Pest Management Program.

Utilise proforma reporting, analysis and work procedure documents.

Understand IPM symbols and information.

Interpret and apply IPM program spatial and logistical specifications.

Interpret and apply test results, and calculate the quantities and applications rates of control materials.

Coordinate work group, contractors and own activities to sequentially and effectively complete IPM activities in a timely and cost effective manner.

What processes should be applied to this competency standard?

There are a number of processes that are learnt throughout work and life, which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are covered by the **key competencies**, although others may be added. The questions below highlight how these processes are applied in this competency standard. Following each question a number in brackets indicates the level to which the key competency needs to be demonstrated where 0 = not required, 1 = perform the process, 2 = perform and administer the process and 3 = perform, administer and design the process.

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| 1. How can communication of ideas and information (2) be applied? | Written, oral and telecommunication of ideas and information relating to IPM implementation, activities and problems encountered will be required with the supervisor, work group, contractors or consultants. |
| 2. How can information be collected, analysed and organised (2)? | Enterprise work procedures and IPM program should be consulted, interpreted and applied to coordinate plant pest, disease and disorder control activities with further clarification sought from the supervisor, contractors or consultants where necessary. |
| 3. How are activities planned and organised (3)? | Work activities for the work group, contractors and self will be planned prior to and adjusted during implementation of the IPM program. |
| 4. How can team work (2) be applied? | Implementation of the IPM program will involve facilitating and leading members of a team to complete IPM activities, and meet IPM standards and specifications on time and budget. |
| 5. How can the use of mathematical ideas and techniques (2) be applied? | Mathematical application will be required to implement the spatial and logistical and quantitative requirements of the IPM program. |
| 6. How can problem-solving skills (2) be applied? | Site contingencies, personnel difficulties, control and timeline failures and identifying, assessing and controlling hazards may require problem solving techniques. |
| 7. How can the use of technology (2) be applied? | Technological understanding will be required to access and apply IPM specifications to work activities, undertake IPM activities, communicate and keep records. |

Are there other competency standards that could be assessed with this one?

This competency standard **could** be assessed on its own or in combination with other competencies relevant to the job function.

There is critical information about **assessing this competency standard for consistent performance and where and how it may be assessed**, in the Assessment Guidelines for this Training Package. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

Range Statement

Range of Variables

The Range of Variables explains the contexts within which the performance and knowledge requirements of this standard may be assessed. The scope of variables chosen in training and assessment requirements may depend on the work situations available

What **plant pests, diseases and disorders** may be relevant to this standard?

These may include plant pests, diseases and disorders which:

present a potential risk for the enterprise, industry or environment.

are notifiable to authorities.

are part of a local, regional, State or national strategy.

What **beneficial organisms** may be relevant to this standard?

These may include volunteer or cultivated plants, insects, spiders and microorganisms that out-compete, parasitise or predate on the pests and disease relevant to the IPM program.

What **control measures** may be employed as part of an IPM program?

These may include targeted chemical application, the application of non-chemical controls including organically or naturally ingredient based sprays, controlled release of predatory organisms, or the application of cultural control methods including removal and disposal of plant pests, diseases and disorders.

What **tools, equipment and machinery** may be required?

Standard tools, such as gardening implements, mechanised and manually operated spray applicators and cultivators, tractors and trailed equipment may be required. Monitoring equipment for the implementation of an IPM program may include insect traps, soil, fertiliser and plant tissue test kits and sampling equipment.

What **OHS hazards** may be associated with this standard?

Hazards may include chemicals and hazardous substances, manual handling, falling branches, overhead powerlines, operating machinery tools and equipment, noise, dust, solar radiation.

What **PPE** may be included?

PPE may include hat, boots, overalls, gloves, goggles, respirator or face mask, hearing

What **environmental implications** may be associated with controlling plant pests, diseases and disorders?

protection, sunscreen lotion.

Beneficial environmental impacts may occur where reduced and informed targeting of chemicals, fertilisers and water to the site and recycling within the system, result in minimal escape of contaminants to the external environment. Beneficial impacts may also result from improved production, healthier ecosystems, more efficient water and nutrient utilisation, and reduced pest numbers.

Detrimental environmental impacts may arise where IPM activities produce excess noise, dust or water, or the systems do not function effectively because of inadequate implementation techniques.

What IPM Standards may be specified?	Standards may include those established by registered industry associations, clients or markets of the enterprise, land management agencies or quality assurance program.
What OHS requirements may be relevant to this standard?	OHS requirements may include identifying hazards, assessing risks and implementing controls, cleaning, maintaining and storing tools, equipment and machinery, appropriate use, maintenance and storage of PPE including sun protection, safe operation of tools, equipment and machinery, safe handling, use and storage of chemicals, organically based materials and hazardous substances, correct manual handling, basic first aid, personal hygiene, and reporting problems to supervisors and safety procedures for the protection of others.
How may a clean and safe work area be maintained?	Tasks may include disabling unused tools, equipment and machinery and storing neatly out of the way of IPM activities, safely storing materials on site, and swiftly and efficiently removing and processing debris and waste from the work area.
What records may apply to controlling plant pests, diseases and disorders?	Records may include types of plant pests, diseases and disorders and beneficial organisms present, numbers of pests and beneficials present, treatments applied, date of application, application rates, success of treatments, economic thresholds, accident and dangerous occurrence records.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

Unit Sector(s)

Not applicable.