### Training Package

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<th>Rural Production (RTE03)</th>
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| HSC Indicative Hours | 10 |

### Evidence Guide

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

Competence in establishing crops requires evidence that a person can interpret a site map, clear the site of old plantings, prepare the soil and site for plantings, prepare the plants, plant the crop and maintain the new crop. The skills and knowledge required to establish crops must be **transferable** to a different work environment. For example, this could include different crops, maintenance practices, and enterprise procedures.

### What specific knowledge is needed to achieve the performance criteria?

This information was omitted from the Training Package and will be forwarded to schools when provided by the Training Package developers.

### What specific skills are needed to achieve the performance criteria?

To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complimentary skills are required. These include the ability to:
- participate in teams and contribute to team objectives
- communicate with team members and supervisor
- read and interpret a range of workplace information
- calibrate equipment
- measure quantities of treatment
- operate machinery to manufacturers specifications and enterprise procedures
- safely apply appropriate agricultural chemicals.

### 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.

### Assessment guide

There is essential 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 the Assessment Guidelines. Further advice may also be sought from the relevant Sector Booklet.

### Key Terms and Concepts

- agricultural crop maintenance
- cleaning and maintenance
- contamination
- crop maintenance plans
- crop nutrition
- environmental implications
- instructions
- irrigation
- occupational health and safety (OHS)
- potential hazards
- paddock maintenance
- personal protective equipment (PPE)
- pest and disease control
- pre-start checks
- risk assessment
- waste disposal
- weed control
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| 1       | Prepare for **agricultural crop** maintenance operations | **Instructions** about crop maintenance activities are interpreted and clarified with the supervisor. | **Learning experiences for the HSC must address:**  
Instructions regarding crop maintenance including:  
- Standard Operating Procedures (SOP)  
- enterprise policies and procedures  
- work notes  
- product labels  
- Material Safety Data Sheet (MSDS)  
- verbal and/or written instructions from the supervisor.  
Crop maintenance activities including:  
- preparation of machinery, tools and equipment  
- fertiliser application  
- spraying  
- irrigation  
- paddock maintenance. |
| 1.1     | **Instructions** about crop maintenance activities are interpreted and clarified with the supervisor. | The Range of Variables explains the context within which the performance and knowledge requirements of this standard may be assessed. The scope of variables chosen in particular training and assessment requirements may depend on the work situations available.  
For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.  
What **agricultural crops** does this unit cover?  
Agricultural crops covered by this unit include wheat and coarse grains, cotton, grain legumes, oilseeds, sugar, temperate and tropical pastures.  
What **instructions** may be relevant to this standard?  
Instructions may include Standard Operating Procedures (SOPs), company policy and procedures in regard crop maintenance, specifications, work notes, Material Safety Data Sheets (MSDS), manufacturers instructions, product labels, or verbal directions from the manager, supervisor, or senior operator.  
What activities are associated with assisting in **agricultural crop maintenance**?  
Agricultural crop maintenance includes preparation of machinery, tools and equipment, and assistance with crop maintenance tasks such as fertiliser application, spraying, irrigation and routine crop or paddock maintenance. |  |
| 1.2     | **Machinery, equipment and tools** are selected and prepared for the task being undertaken. | **What machinery, equipment and tools are likely to be used?**  
Machinery, equipment and tools may include tractors and associated crop maintenance machinery such as fertiliser spreaders, spray rigs and irrigation equipment. | **Learning experiences for the HSC must address:**  
A basic knowledge of the selection, preparation and operation of machinery, equipment and tools including:  
- tractors  
- fertiliser spreaders  
- spray rigs  
- irrigation equipment. |
Element | Performance Criteria | Range of Variables | HSC Requirements and Advice
--- | --- | --- | ---
 | What activities are associated with assisting in agricultural crop maintenance?
Agricultural crop maintenance includes preparation of machinery, tools and equipment, and assistance with crop maintenance tasks such as fertiliser application, spraying, irrigation and routine crop or paddock maintenance.
What are the environmental implications associated with agricultural crop maintenance?
Environmental implications may include the contamination of off-site ground water or soils from solids, debris, nutrients or chemicals; land disturbance, spread of noxious weeds and water run-off.
 | Preparation of machinery, equipment and tools including:
• fuelling
• loading product
• safety check
• calibration
• pre-start checks.

1.3 **OHS hazards** are identified, risks assessed and reported to the supervisor.
What OHS hazards may be associated with crop maintenance?
Hazards may include use of machinery, moving machinery and machinery parts, and plant debris, chemicals and hazardous substances, manual handling, solar radiation, dust and noise.
 | Learning experiences for the HSC must address:
An awareness of potential hazards including:
• physical
  – unsafe tools and equipment
  – uneven surfaces
  – fatigue
  – noise
  – dust
  – vehicles
  – exposed moving machinery parts
  – obstacles
• biological
  – plant allergy
  – hazardous substances
  – insects
  – spiders
  – snakes
• ergonomic
  – inappropriate use of tools/equipment
  – poor manual handling
• environmental
  – climate
  – solar radiation
• psychological
  – dealing with emergencies
  – working alone
  – isolation.
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<td>1.4</td>
<td>The <strong>environmental implications</strong> of the crop maintenance plan are identified and discussed with the supervisor.</td>
<td>What activities are associated with assisting in agricultural crop <strong>maintenance</strong>? Agricultural crop maintenance includes preparation of machinery, tools and equipment, and assistance with crop maintenance tasks such as fertiliser application, spraying, irrigation and routine crop or paddock maintenance.</td>
<td><strong>Learning experiences for the HSC must address:</strong> Crop maintenance plans: - variety and species of crop - paddocks/areas planted - preparation methods - SOP - equipment and machinery - incidence and populations of weeds, pests and diseases - history of paddock and crops grown. Environmental implications of crop maintenance including: - contamination of off-site ground water or soils:  - solids  - debris  - nutrients  - chemicals - land disturbance - spread of noxious weeds - water run-off.</td>
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<td>1.5</td>
<td>Suitable <strong>personal protective equipment</strong> is selected, used and maintained.</td>
<td>What <strong>personal protective equipment</strong> may be required to undertake turf renovation? Personal protective equipment may include hat, boots, overalls, gloves, goggles, respirator or face mask, hearing protection, and sunscreen lotion.</td>
<td><strong>Learning experiences for the HSC must address:</strong> The selection, use, maintenance and storage of personal protective equipment (PPE) appropriate to the work task including: - footwear - head protection – hard hat, sun hat and helmet - overalls - gloves - apron - respirator - face mask - hearing protection - eye protection – goggles, safety glasses and face guard</td>
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| 2 Prepare for crop maintenance operations | 2.1 Machinery and vehicles are fuelled and routine checks are made for oil levels, tyre pressures, water levels and greasing points. | What machinery, equipment and tools are likely to be used? Machinery, equipment and tools may include tractors and associated crop maintenance machinery such as fertiliser spreaders, spray rigs and irrigation equipment. | - sunscreen  
- waterproof clothing.  
Maintenance of PPE according to manufacturer’s instructions and enterprise SOP including:  
- cleaning and decontamination  
- correct storage  
- regular checks for damage  
- repair/replacement of worn, malfunctioning or damaged equipment/parts  
- disposal of single-use equipment. |
| 2.2 Instructions are received concerning location of the day’s work, special operating instructions or work procedures. | What instructions may be relevant to this standard? Instructions may include Standard Operating Procedures (SOPs), company policy and procedures in regard crop maintenance, specifications, work notes, Material Safety Data Sheets (MSDS), manufacturers instructions, product labels, or verbal directions from the manager, supervisor, or senior operator.  
What activities are associated with assisting in agricultural crop maintenance? Agricultural crop maintenance includes preparation of machinery, tools and equipment, and assistance with crop maintenance tasks such as fertiliser application, spraying, irrigation and routine crop or paddock maintenance. | |
| 3 Carry out maintenance operations | 3.1 Assistance is provided with the crop weed control program. | What agricultural crops does this unit cover? Agricultural crops covered by this unit include wheat and coarse grains, cotton, grain legumes, oilseeds, sugar, temperate and tropical pastures. | Learning experiences for the HSC must address:  
Weed control programs including:  
- use of chemicals  
- cultivation |
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<td>3.2</td>
<td>Assistance is provided with the crop pest and disease control program.</td>
<td>• burr chipping&lt;br&gt;• grazing.</td>
<td>Learning experiences for the HSC must address:&lt;br&gt;Pest and disease control programs including:&lt;br&gt;• chemical control&lt;br&gt;• monitoring pest and disease incidence and populations.</td>
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<tr>
<td>3.3</td>
<td>Assistance is provided with the crop nutrition program.</td>
<td>Learning experiences for the HSC must address:&lt;br&gt;Crop nutrition programs including:&lt;br&gt;• fertilising&lt;br&gt;• use of organic materials&lt;br&gt;• stubble retention&lt;br&gt;• fertigation&lt;br&gt;• nitrogen tissue testing.</td>
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<td>3.4</td>
<td>Assistance is provided with paddock maintenance duties.</td>
<td>Learning experiences for the HSC must address:&lt;br&gt;Paddock maintenance including:&lt;br&gt;• fencing&lt;br&gt;• signage&lt;br&gt;• track maintenance&lt;br&gt;• fire breaks.</td>
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<td>3.5</td>
<td>Assistance is provided with irrigation duties where appropriate.</td>
<td>Learning experiences for the HSC must address:&lt;br&gt;Irrigation activities including:&lt;br&gt;• moving pipes&lt;br&gt;• monitoring water supplies and quality&lt;br&gt;• turning water on and off.</td>
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<td>4</td>
<td>Complete maintenance operations</td>
<td>4.1 Tools and equipment are cleaned and sterilised according to the manufacturers specifications, enterprise procedures and regulations.</td>
<td>What machinery, equipment and tools are likely to be used? Machinery, equipment and tools may include tractors and associated crop maintenance machinery such as fertiliser spreaders, spray rigs and irrigation equipment.</td>
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<td>4.2</td>
<td>All containers, leftover fluids, waste and debris are disposed of safely and appropriately in accordance with enterprise requirements.</td>
<td>How may the waste materials be disposed of? Waste disposal may include disposing of drums, containers, and bags by approved methods at approved collection locations.</td>
<td>Learning experiences for the HSC must address: Waste removal and disposal: • use of approved disposal sites • recycling • environmental impacts.</td>
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<tr>
<td>4.3</td>
<td>All required workplace records are completed accurately and promptly in accordance with enterprise requirements.</td>
<td></td>
<td>Learning experiences for the HSC must address: Records including: • pre-start checklists • job cards • sowing rates • plant densities • type of crop planted • fertilisers and other additives • date and time • areas planted • observations made • machinery – performance – observations – malfunctions.</td>
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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 3 = perform, administer and design the process

1. How can communication of ideas and information (1) be applied?

   Ideas and information relating to preparation, planting and crop care, and problems encountered should be discussed with other members of the work team and the supervisor.

2. How can information be collected, analysed and organised (1)?

   Enterprise work procedures such as a daily planting plan should be consulted, interpreted and applied to crop maintenance activities with further clarification sought from the supervisor where necessary.

3. How are activities planned and organised (1)?

   Materials, tools, equipment and work activities for crop maintenance routines may need to be arranged around seasonal requirements, and there may be some responsibility for co-ordinating work activities with other members of the work team.

4. How can team work (1) be applied?

   Crop maintenance activities may involve working with other members of a team to complete operations within the daily work routine.

5. How can the use of mathematical ideas and techniques (1) be applied?

   Calibrating seeding equipment and determining quantities and application rates for treatment or fertiliser will require mathematical application.

6. How can problem-solving skills (1) be applied?

   Problems relating to site preparation, crop planting, treatments, machinery and equipment, workplace safety and other team members may arise during the maintenance of crops, which may require problem-solving skills.

7. How can the use of technology (1) be applied?

   Technology may be applied in the preparation, use and maintenance of agricultural equipment and machinery used for land preparation, seeding, spreading of fertiliser or other crop treatments.