

# **ASSESSMENT GUIDELINES**

## **Unit 21559**

Describe, plan, and manage a weed control programme.

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Level 4, Credit 5, Version 1

# Describe, plan, and manage a weed control programme

Unit standard 21559

Level 4, Credit 5, Version 1

## Level of performance required for this unit standard

This is a level 4 unit standard. At this level trainees are expected to demonstrate the following abilities when completing assessment tasks:

- To work under broad guidance, independently; with complete responsibility for the standards of the outcome achieved.
- To apply technical skills, knowledge, and innovation to complete the task to the specified standard, in a variety of familiar and unfamiliar contexts.
- To analyse and interpret information, and make an informed judgment.

## Workplace assessment:

For guidelines on Workplace Assessment, please refer to the NZHITO Workplace Assessors Manual, and for further information, please contact: NZHITO, P O Box 8638, Christchurch. Ph 03 9644 735, Fax 03 9644 737, Website: [www.hortito.org.nz](http://www.hortito.org.nz)

## Special notes:

1. Legislation and regulations relevant to this unit standard include but are not limited to - Hazardous Substances and New Organisms Act 1996, and relevant regulations; Health and Safety in Employment Act 1992.
2. The New Zealand Standard applicable to this unit standard is NZS 8409:2004 *The management of agrichemicals*, available from <http://www.standards.co.nz>.
3. Codes and related documentation applicable to this unit standard include but are not limited to: *Responsible Care Management System*, available from the New Zealand Chemical Industry Council (NZCIC, PO Box 5069, Wellington).
4. Definition - *agrchemical* – any substance, whether inorganic or organic, man-made or naturally occurring, modified or in its original state, that is used in any agriculture, horticulture or related activity, to eradicate, modify or control flora and fauna. It includes agricultural compounds, fertilisers, vertebrate pest control products and oral

nutrition products (this definition differs to that in NZS 8409:2004, where *agrichemicals* exclude fertilisers, vertebrate pest control products and oral nutrition products).

## **Acknowledgement**

At the back of this assessment guide is an *Agriculture ITO* endorsed project, with sample answers attached, which has been developed for this unit standard. The attached project maybe used by the Workplace Assessor to carry out assessment and marking of this unit standard on-job.

If you do decide to use the attached project as your method of assessment we only require you to submit the completion form to the NZHITO once the student is deemed to be competent as is our normal practice.

## Unit 21559: Describe, plan, and manage a weed control programme (Apprentice copy)

ELEMENT	Competent	Range of evidence an assessor should consider
<p><b>Element 1</b> Describe the principles and methods of weed management and control.</p>	<p><b>Yes/No</b></p>	<ul style="list-style-type: none"> <li>▪ Describe weed management and control methods for specified weeds found in a specified land based industry. Range: cultural, biological, physical, chemical.</li> <li>▪ Evaluate weed management and control methods in terms of their advantages and disadvantages. Range: cultural, biological, physical, chemical.</li> <li>▪ Describe plant life cycles in terms of the implications for weed management and control at each stage. Range: ephemeral, annual, biennial; perennial – herbaceous, woody.</li> </ul>
<p><b>Element 2</b> Develop a weed management programme for a specified land based activity.</p>	<p><b>Yes/No</b></p>	<ul style="list-style-type: none"> <li>▪ Select and justify methods for controlling weeds in terms of cost benefits, environmental sustainability, and plant condition.</li> <li>▪ Ensure the programmes takes into account management and labour time costs. Range: notification of neighbours, consent and permits, area to cover, terrain, hazards.</li> <li>▪ Ensure the programme takes into account implementation factors. Range: factors may include but are not limited to – non target plants, seasonal stages of growth, time frame for control, species, density of infestation, prevailing weather patterns, resistance to herbicides; evidence is required for at least five.</li> <li>▪ Ensure the programme complies with health and safety requirements.</li> <li>▪ Ensure the programme is documented in accordance with legislative and on-site requirements.</li> </ul>

\_\_\_\_\_ (Name of Apprentice)

is **Competent / Not yet competent** in Unit Standard 21559, version 1

**Signed (Assessor):** \_\_\_\_\_

WPA Registration Number: \_\_\_\_\_ Date: \_\_\_\_\_

**Unit 21559: Describe, plan, and manage a weed control programme  
(Assessor copy)**

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Please send this page to your NZHITO Regional Manager, who will forward it to National Office to register the credits on your NZQA Record of Learning.

## **Unit 21559: Describe, plan, and manage a weed control programme.**

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*(Name of Apprentice)*

**is Competent in Unit Standard 21559. (version 1)**

**Signed (Assessor):**

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WPA Registration Number: \_\_\_\_\_

Date: \_\_\_\_\_

# Describe, Plan and Manage a Weed Control Programme

## Instructions:

1. Write your name, address and the date you hand in this Assessment in the box below.
2. Answer all questions. Use more paper if required.
3. All answers must be in your own words.
4. You must show that you have achieved the standard in all elements of the unit standard.
5. If you do not attain the standard you will have an opportunity to attempt part or all of the assessment again either orally or written, after some further study.
6. If there are any questions you don't understand, or if you have any difficulty reading the questions, please ask your tutor or supervisor for some help.
7. This is an OPEN book project.

## Student To Complete:

Student Name:	
Address:	
Date Handed In:	
Declaration:	This assessment is all my own work  (Your signature)

## Assessor To Complete:

Course Number/Name:	
Standard Achieved:	Yes / No <span style="float: right;">(Delete One)</span>
Assessor's Name & Signature:	
Date:	
Comments:	
Questions to Resit:	

Assessment Retake Date:	
Standard Achieved:	Yes / No <span style="float: right;">(Delete One)</span>
Assessor's Name & Signature:	

# Describe, Plan and Manage a Weed Control Programme

Unit 21559

Level 4

Credits 5

This project requires you to develop a weed control programme for a land based activity (business) of your choice or to use the scenario given below.

If you are using your own activity or business you will need to provide information about: the type of land based activity, the size of operation, areas involved, weeds present, non-target plants and any surrounding issues that need to be taken into account for the weed control programme. You should provide an outline of the weed species, location and extent of the problem (you may describe this and/or draw a map).

## Scenario

You have just purchased the land described below and you are working with your new farm manager to put together a weed control programme for the first year.

The farm is a 200ha pasture unit with a neighbouring horticulture business on the western boundary. The northern approx one quarter of the farm is easy to medium hill country while the balance of the land is flat to rolling. There is a stream running more or less through the middle of the property. The main land use is grazing (sheep and cattle) but there is also a 4ha asparagus block and 6ha of covenanted native bush adjoining the northern boundary which is fenced off from stock.

The following weeds are main ones you have identified you will concentrate on in the first 12 months: -

- **Ragwort** is located on the northern hills and there is a small amount in the adjoining flat paddocks.
- There is an area (approx 3ha) of established gorse which is close to the bush block
- **Rushes and buttercups** are problems in low lying, flat paddocks beside the stream.
- **Scotch and wing** thistles are prevalent on the ridges in the hill paddocks and in a number of the flat paddocks with scattered plants also occurring in all the hill paddocks.
- **Californian thistles** are quite thick in 4 or 5 mainly flat paddocks at the southern end of the farm.
- **Fathen** is a nuisance in the asparagus crop

Other weeds on the land include: -

- Woolly nightshade on the margins of the bush block
- Various broadleaf pasture weeds such as plantain, and mallow weed
- Barley grass around the stock yards

## Project

1. Describe suitable weed management and control methods you could use for the weeds identified. Be sure your description includes cultural, biological, physical and chemical methods that could be employed where appropriate. (Note: You don't need to consider each type of control for each weed but your programme should include all of the different types of controls.)

2. Given the nature of the land and the land-uses being undertaken discuss the advantages and disadvantages of the control methods you have identified for each weed and why you have discounted some methods for some weeds.
3. Outline the timing of the controls for each weed taking into account the life-cycle/seasonal stages of growth of the weeds concerned. You may include information on the life cycles of the main weeds you are trying to control.
4. Bearing in mind all of the above prepare a weed management plan that takes into account the methods you have decided to use and when. You can present this as a seasonal calendar/chart if you prefer.
5. Justify the methods you have chosen on the basis of cost/benefit or other economic analysis, resources available, environmental implications, target and non-target plant conditions, the terrain you are dealing with, timeframe for control, consent and permit requirements, area to cover, hazards and non-target plants. (Cost-benefit or other economic analysis could involve cost comparisons of the different methods or products used which can include cost of materials, time and labour.)
6. Outline the documentation required to meet the legal or regulatory requirements (e.g. Occupational Safety and Health, Quality Management requirements, notification of neighbours, permits and consents, Spray diaries etc...).

# MARKING SCHEDULE

## Describe, Plan and Manage a Weed Control Programme

Unit 21559

Level 4

Credits 5

Question	Element	Evidence	Judgement
1	1.1	<p>Weed management plan includes biological, chemical, cultural and physical control methods e.g. for the scenario given: -</p> <ul style="list-style-type: none"> <li>▪ Cultural control could include: Drainage for rushes/buttercup, application of lime, grazing management (for control of ragwort).</li> <li>▪ Physical control could include: Grubbing scotch thistles, pulling ragwort plants, mowing of Californian thistles in spring.</li> <li>▪ Biological control could include:</li> <li>▪ Chemical control could include: Spraying barley grass with glyphosate, spraying thistles, gorse and ragwort.</li> </ul>	<p>Project answers demonstrate clear understanding of biological, physical, chemical and cultural control.</p>
2	1.2 2.1 2.2 2.3	<p>Advantages and disadvantages of control methods are stated. Eg for scenario given: -</p> <ul style="list-style-type: none"> <li>▪ Pulling ragwort: adv = no use of chemicals next to neighbouring horticulture land use, if can use existing labour resource then the cost is opportunity cost rather than cash. Disadvantages may not pull out whole plant and end up with a perennial version of ragwort that is harder to control, time consuming.</li> </ul>	<p>At least one advantage and one disadvantage described for each control method (in relation to the property in question and the types of weed that are prevalent). Advantages and disadvantages take into account the condition of plants being controlled, cost versus benefit, environmental sustainability.</p>
3	1.3 2.3	<p>Weed lifecycles presented for the main weeds that are being controlled and for at least 4 of the different types of life-cycles (annual/ephemeral (e.g. fathen, barley grass), biennial (e.g. scotch, wing thistle, and ragwort) woody perennial (e.g. established gorse) and herbaceous perennial (e.g. rushes, buttercups).</p>	<p>Timing of control methods is in relation to the weed life cycles and appropriate for the weeds being controlled. The four life cycle types are covered.</p>
4	2	Weed management plan/calendar	

Question	Element	Evidence	Judgement
5	2.1 2.2 2.3	Justification for the methods included in the weed management plan.	Control methods chosen are appropriate for the conditions and weeds identified. Control methods are costed (eg. dollar cost, environment cost, time cost). Control methods and timing are appropriate for seasonal stages of growth, weather conditions.
6	2.4 2.5	Weed control documentation is described or presented for the weed management plan e.g.: - <ul style="list-style-type: none"> <li>▪ Spray diaries</li> <li>▪ Protective equipment inventory and procedures</li> <li>▪ First Aid plans</li> <li>▪ Any applicable QA documents for the particular land based activity (e.g. BOFP for dairy farmers etc...)</li> <li>▪ Notification of neighbours</li> <li>▪ Consent or permit requirements</li> </ul>	Control programme, methods and timing are in accordance with health and safety requirements. Documentation is in accordance with legislation.