

# **ASSESSMENT GUIDELINES**

## **Unit 21955**

Demonstrate knowledge of frosts and frost protection methods for viticulture

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Level 4, Credit 5, version 1

# Demonstrate knowledge of frosts and frost protection methods for viticulture

Unit standard 21955

Level 4, Credit 5

## 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, PO Box 8638, Christchurch. Phone: 03 9644 735, Fax: 03 9644 737,  
Website: [www.hortito.org.nz](http://www.hortito.org.nz)

## Special notes:

None.

**Unit 21955: Demonstrate knowledge of frosts and frost protection methods  
for viticulture  
(Apprentice copy)**

<b>ELEMENT</b>	<b>Competent</b>	<b>Range of evidence an assessor should consider</b>
<b>Element 1</b> Explain how climatic and landform conditions cause radiation and advection frosts.	<b>Yes/No</b>	<ul style="list-style-type: none"> <li>▪ Describe the climate and landform conditions that cause radiation frosts. Range: relative humidity, dewpoint, aspect, airflow, topography and surrounding land features.</li> <li>▪ Describe the climate and landform conditions that cause advection frosts. Range: relative humidity, dewpoint, aspect, airflow and surrounding land features.</li> </ul>
<b>Element 2</b> Demonstrate knowledge of cultural methods of reducing frost risk for viticulture.	<b>Yes/No</b>	<ul style="list-style-type: none"> <li>▪ Identify and describe factors that determine frost risk at a selected site. Range: altitude, topography, surrounding land features, mesoclimate and microclimate.</li> <li>▪ Identify and describe vineyard cultural practices that reduce the risk of frost.</li> </ul>
<b>Element 3</b> Describe the methods available for frost prediction and monitoring.	<b>Yes/No</b>	<ul style="list-style-type: none"> <li>▪ Describe frost prediction methods. Range: local historical data, weather forecasts, meteorological information</li> <li>▪ Describe frost-monitoring methods.</li> </ul>
<b>Element 4</b> Describe the operation and principles of frost protection methods.	<b>Yes/No</b>	<ul style="list-style-type: none"> <li>▪ Describe the operation and principles of overhead sprinklers, including start-up procedures and requirements. Range: hydraulic requirements, protective mechanisms, critical temperature points</li> <li>▪ Describe the operation and principles of air movement frost protection, including start-up requirements. Range: positioning within the vineyard, use with diesel heaters, protective mechanisms, critical temperature points.</li> <li>▪ Describe the operation and principles of heating methods for frost protection. Range: mobile gas fired units (lazo), frost pots, electrical methods.</li> <li>▪ Identify the limitations of each method of frost protection. Range: type of frost event, severity of frost event, causes of failure, maintenance, effective coverage, local authority regulations.</li> </ul>

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

is **Competent / Not yet competent** in Unit Standard 21955. (version 1)

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

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

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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.

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