

ASSESSMENT GUIDELINES

Unit 10951

Demonstrate knowledge of tree stock
conditioning and topping principles

Level 4, Credit 4, version 3

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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. Ph 03 9644 735, fax 03 9644 737, website www.hortito.org.nz

Special notes:

1. This unit standard covers the principles involved in the conditioning and topping of radiata pine and eucalypt seedlings and of radiata pine cuttings. These principles are equally applicable to seedlings, transplants and cuttings of other forest tree species.
2. Reference: Competence in this unit standard requires knowledge of: van Dorsser, J.C. 1981: Seedling conditioning. Pp 128- 140 in Chavasse, C.G.R. (Ed.) "Forest Nursery and Establishment Practice in New Zealand", *Forest Research Institute Symposium No. 22*.

Unit 10951: Demonstrate knowledge of tree stock conditioning and topping principles (Apprentice copy)

| ELEMENT | Competent | Range of evidence an assessor should consider |
|---|---------------|---|
| Element 1 Demonstrate knowledge of the prerequisites for effective tree stock conditioning. | Yes/No | <ul style="list-style-type: none"> ▪ Outline seed sowing times in relation to their influence on minimum undercutting height and timing of undercutting. Range: radiata pine, one eucalypt species. ▪ Outline seed spacings in relation to their influence on root volume, foliage illumination and conditioning effectiveness. Range: radiata pine, one eucalypt species. ▪ Outline spacings of cuttings in relation to their influence on stem diameter, shoot development and root system quality. |
| Element 2 Demonstrate knowledge of tree stock conditioning principles. | Yes/No | Range: radiata pine <ul style="list-style-type: none"> ▪ Outline seasonal growth patterns of unconditioned seedlings in relation to the effect of spacing on seedling morphology. ▪ Outline growth patterns of seedlings subject to mechanical conditioning in relation to the effect of such conditioning on seedling sturdiness. ▪ Outline conditioning treatments of seedlings and their timing in relation to their effects on seedling morphology and physiology. Range: undercutting, wrenching, wrenching frequency, lateral root pruning, carbohydrate transfer, height, diameter, fibrous roots, root growth capacity. ▪ Outline conditioning treatments of cuttings and their timing in relation to their effects on root system quality. |
| Element 3 Demonstrate knowledge of tree stock topping principles. | Yes/No | <ul style="list-style-type: none"> ▪ Outline the desirability of topping either before or after undercutting in relation to its effect on fibrous root development. Range: leaf area, carbohydrate transfer, radiata pine, one eucalypt species. ▪ Outline the practice of re-topping in relation to its effect on bud and shoot development. Range: radiata pine- fascicle buds, small shoots, hardening off; eucalypts- accessory buds, foliage re-development. ▪ Describe topping severity in terms of its effect on seedling malformation. |

_____ (Name of Apprentice)

is **Competent** / **Not yet competent** in Unit Standard 10951 (version 3)

Signed (Assessor): _____

WPA Registration Number: _____ Date: _____

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