

Title	Demonstrate knowledge of plantation forest establishment operations and perform an establishment task under supervision		
Level	2	Credits	10

Purpose	People credited with this unit will be able to: demonstrate knowledge of forest establishment, plantation tree planting, use of agrichemicals, releasing of plantation trees, and fertilising plantation trees; and perform an establishment task under supervision.
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Classification	Forestry > Forest Foundation Skills
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Available grade	Achieved
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Guidance Information

- 1 Legislation relevant to this unit standard includes the: Health and Safety at Work (HSW) Act 2015, Resource Management Act 1991; the Resource Management (National Environmental Standards for Plantation Forestry) Amendment Regulations 2018; and the Heritage New Zealand Pouhere Taonga Act 2014, and any subsequent amendments.
- 2 References
New Zealand Forest Owners Association, *Forest Practice Guides* (2019), and any subsequent amendments, available from <http://www.nzfoa.org.nz>.
Approved Code of Practice (ACOP) for Safety and Health in Forestry Operations, December 2012, available from <http://www.worksafe.govt.nz>.
- 3 Definitions
Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.
Job prescription refers to any written instructions for the operation and may include maps, harvest plans, or cut plans.
Worksite procedures refer to documented procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site safety procedures, equipment operating procedures, quality assurance procedures, housekeeping standards, procedures to comply with legislative and local body requirements.
- 4 Agrichemicals must be applied in accordance with NZS 8409:2004 *Management of agrichemicals*, available for purchase online from Standards New Zealand, <https://www.standards.govt.nz/>.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of forest establishment.

Performance criteria

- 1.1 Factors affecting tree growth are described in accordance with accepted industry practice.
- 1.2 Establishment operations are described, and the impact of the establishment operation on downstream operations is explained.
- Range establishment operations include – planting, releasing, fertilising; explanation includes – tree quality, increased value, decreased value.

Outcome 2

Demonstrate knowledge of plantation tree planting.

Performance criteria

- 2.1 Basic forest planting terminology is defined in accordance with accepted industry practice.
- Range tree stock, seedlings, cuttings, containers, socketing, positive pull-up, clone, cultivation, sourcing, screef, bare root, hockey sticks.
- 2.2 Practices to ensure that stock is in plantable condition are described in accordance with accepted industry practice.
- Range correct stacking techniques, correct storage methods, correct transport methods.
- 2.3 Consequences of incorrect planting techniques for tree growth are described.
- Range too shallow, too deep, poor cultivation, incorrect spacing, incorrect root placement.
- 2.4 Planting hazards are identified, and a method of control for each hazard is explained.
- Range hazards include – terrain, weather conditions, slash, bending, spade cuts, falling rocks.

Outcome 3

Demonstrate knowledge of the use of agrichemicals.

Performance criteria

- 3.1 The purpose of NZS 8409:2004 *Management of agrichemicals* is described.
- 3.2 The importance of following first aid instructions specific to each agrichemical product is explained.
- 3.3 Typical first aid procedures for chemical accidents are described, and where information on these procedures can be found, are identified.
- 3.4 The correct methods of disposal of agrichemicals are described in accordance with the NZS 8409:2004 *Management of agrichemicals* and worksite procedures.

Outcome 4

Demonstrate knowledge of releasing of plantation trees.

Performance criteria

- 4.1 Manual releasing is described in terms of releasing methods and the situations when they would be used.

Range manual, motor manual.
- 4.2 Advantages and disadvantages of chemical releasing are described in terms of the effects on the end crop.

Range evidence of three of each is required.
- 4.3 The types of herbicide, their method of application, their advantages and disadvantages, and the situation in which each would be used are described.

Range liquids, granules.
- 4.4 Methods of application of agrichemicals are described in accordance with accepted industry practice.

Range spotgun, knapsack, aerial, brushgun, wick wire, granule applicator; evidence of four methods is required.
- 4.5 The reason for the use of dyes as an additive to chemicals is explained in accordance with accepted industry practice.
- 4.6 Three consequences of using incorrect technique during chemical releasing are described.

- 4.7 Chemical releasing hazards are identified, and a method of control for each hazard is explained in accordance with worksite procedures.

Range hazards include – terrain, weather conditions, slash, working too close, chemical accidents, bending, spray drift, poisoning (inhalation, ingestion), mixing of chemicals, transport of chemicals, fatigue, dehydration.

Outcome 5

Demonstrate knowledge of fertilising plantation trees.

Performance criteria

- 5.1 The advantages and disadvantages of fertilising are described.
- 5.2 Fertiliser application methods are described in accordance with accepted industry practice and worksite procedures.
- 5.3 The best position for the application of fertiliser in relation to the tree is identified and explained in accordance with accepted industry practice and worksite procedures.

Range flat terrain, slopes, near waterways.

- 5.4 Fertilising hazards are identified, and a method of control for each hazard is explained in accordance with worksite procedures.

Range hazards include – terrain, weather conditions, slash, working too close, chemicals, poisoning, heavy loads, bending, fatigue, dehydration.

Outcome 6

Perform an establishment task under supervision.

Range one of – planting, chemical releasing, fertilising.

Performance criteria

- 6.1 Personal protective equipment for the task is selected, checked for condition, and used, in accordance with worksite procedures.
- 6.2 Equipment for establishment task is selected and checked, and safety procedures are confirmed with the supervisor in accordance with worksite procedures.
- Range safety procedures include – knowledge of emergency procedures, identification of escape routes.
- 6.3 Communication, as specified by the supervisor, is established in accordance with worksite procedures.

- 6.4 Ergonomically correct methods are used for transporting equipment and performing the establishment task.
- Range ergonomic methods may include but are not limited to –
distributing weight evenly, shoulder straps used effectively,
avoiding overreaching, steady footing, steady pace.
- 6.5 Hazards associated with the establishment task are identified, reported to the supervisor, and controlled, in accordance with worksite procedures.
- 6.6 The establishment task is completed under supervision and in accordance with worksite procedures and job prescription.

Replacement information	This unit standard and unit standard 22998 replaced unit standard 1241. This unit standard also replaced unit standard 6923.
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Planned review date	31 December 2028
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 May 2008	31 December 2020
Revision	2	16 July 2010	31 December 2017
Review	3	10 December 2015	N/A
Review	4	28 May 2020	N/A
Rollover	5	28 March 2024	N/A

Consent and Moderation Requirements (CMR) reference	0173
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Muka Tangata - People, Food and Fibre Workforce Development Council qualifications@mukatangata.nz if you wish to suggest changes to the content of this unit standard.