

Title	Prepare to apply, and apply, agrichemicals to control pests in tree and vine crops		
Level	4	Credits	20

Purpose	People credited with this unit standard are able to: <ul style="list-style-type: none"> – select and prepare equipment and machinery; – select and mix agrichemicals; – determine work pattern for agrichemical application to control pests in tree and vine crops; – operate the air-assisted sprayer; and – carry out post-operational procedures.
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Classification	Rural Contracting > Agrichemical Application
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Available grade	Achieved
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Guidance Information

- 1 Learning and assessment for this unit standard must be in accordance with the following:
 - Health and Safety at Work Act 2015 (HSWA);
 - Hazardous Substances and New Organisms Act 1996 (HSNO);
 - Land Transport Rule: Dangerous Goods 2005;
 - NZS 8409:2004 Management of agrichemicals (NZS 8409);
 - Resource Management Act 1991;
 - and all subsequent amendments and replacements.
- 2 Evidence from three different agrichemical applications is required to achieve this unit standard.
- 3 Definitions

Adjuvant refers to an ingredient added to a herbicide formulation or spray mixture to aid or modify the action of the herbicide, or the physical characteristics of the mixture.

Agrichemical refers to 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 or fauna.

Company requirements refer to all policies, procedures, and methodologies the candidate's organisation has in place including but not limited to those relating to health, safety, environment, quality, and operations.

Market or industry body refers to the collective body of organisations carrying on extensive transactions in a specified commodity. They state the conditions to be met for that commodity. Examples of market or industry bodies include Zespri and Pipfruit New Zealand.

Manufacturer's instructions may include specifications, installation, handling, use, and maintenance instructions and safety data sheets.

Pests refers to plant pests and/or disease organisms.

Plant pests refer to undesirable organisms injurious to humans or plant.

Outcomes and performance criteria

Outcome 1

Select and prepare equipment and machinery.

Performance criteria

- 1.1 Equipment and machinery selected are appropriate for the work to be carried out.
- 1.2 Equipment is checked for function and soundness in accordance with company requirements.
- 1.3 Equipment is adjusted for use in accordance with manufacturer's instructions and company requirements.
- Range may include but is not limited to – nozzle type and size, nozzle configuration, operating pressure, flow rate, spray pattern, boom height, agitation, fan pitch, fan speed.
- 1.4 Air assisted sprayer equipment, tractor or self-propelled, is checked and calibrated for the work to be carried out in accordance with NZS 8409 and manufacturer's instructions.
- Range may include but is not limited to – sprayer size, spray volume, canopy size, travel speeds, output, spray target canopy height/spread/density/growth stage, application volume, application rate.

Outcome 2

Select and mix agrichemicals.

Performance criteria

- 2.1 Agrichemicals, adjuvants, and additives chosen are appropriate for the work to be carried out.
- 2.2 Agrichemicals and adjuvants chosen meet client, territorial authority/regional council (TA/RC) requirements and market or industry body requirements.
- 2.3 Mixing site is chosen in accordance with NZS 8409 and TA/RC requirements.
- 2.4 Agrichemical concentrates, and adjuvants, are measured and mixed in accordance with the label directions.

- 2.5 Unused agrichemicals and adjuvants are stored, and mixing equipment is cleaned or decontaminated and stored, in accordance with NZS 8409 and company requirements.
- 2.6 Empty containers are disposed of in accordance with NZS 8409 and TA/RC requirements.
- 2.7 Personal protective equipment is selected, used, and appropriate in terms of the type of hazardous substance, the mixing and application of the agrichemical, and manufacturer's instructions.

Outcome 3

Determine work pattern for agrichemical application to control pests in tree and vine crops.

Performance criteria

- 3.1 Work pattern produces systematic agrichemical application to achieve effective spray coverage of the spray target(s).
- 3.2 Work pattern ensures that under and over-application is minimised and takes account of potential hazards, especially recognition of risks to sensitive areas and minimisation of off-target spray drift.

Range may include but is not limited to – people, public amenities, non-target areas, excluded properties and road frontages, proximity to watercourses, timing of applications, ground conditions, weather conditions, contour, drift.
- 3.3 Where GPS is used spraying area location is confirmed and recorded in accordance with company requirements.

Outcome 4

Operate the air assisted sprayer.

Performance criteria

- 4.1 Operation produces consistent and complete coverage in terms of minimal overlaps, appropriate driving pattern, and no missed or re-treated rows.
- 4.2 Operation ensures accuracy in terms of avoiding off-target spraying.
- 4.3 Drive speed, spray controller, and nozzles are used in the operation to ensure the target plant is receiving the required coverage.
- 4.4 Any blockages are attended to in accordance with NZS 8409 and the manufacturer's instructions.

Outcome 5

Carry out post-operational procedures.

Performance criteria

- 5.1 Contaminating residues are removed, and washings are managed, in accordance with NZS 8409 and TA/RC requirements.
- 5.2 Any surplus agrichemical mix is managed in accordance with NZS 8409 and TA/RC requirements.
- 5.3 Lubrication of plant and equipment is carried out in accordance with manufacturer's instructions.
- 5.4 Any damage or faults are identified and are repaired, replaced, or reported in accordance with manufacturer's instructions.
- 5.5 Equipment is stored in a safe condition and location in accordance with NZS 8409 and manufacturer's instructions.
- 5.6 Application records are made in accordance with NZS 8409 and TA/RC, company, and client requirements, and are stored in accordance with market or industry body requirements.

Planned review date	31 December 2024
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	24 October 2019	N/A

Consent and Moderation Requirements (CMR) reference	0101
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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 Connexis - Infrastructure Industry Training Organisation qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.