

Title	Prepare to apply, and apply, agrichemicals to control pests in crops or pasture		
Level	4	Credits	20

Purpose	People credited with this unit standard are able to: select and prepare equipment and machinery for applying agrichemicals to control pests in crops or pasture; select and mix agrichemicals for applying agrichemicals to control pests in crops or pasture; determine work pattern for applying agrichemicals to control pests in crops or pasture; apply agrichemicals to control pests in crops or pasture; 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);
 - Health and Safety at Work (Hazardous Substances) Regulations 2017;
 - Health and Safety at Work (General Risk and Workplace Management) Regulations 2016;
 - Agricultural Compounds and Veterinary Medicines Act 1997;
 - Resource Management Act 1991;
 - EPA Notices: Hazardous Substances (Hazardous Property Controls) Notice 2017;
 - Land Transport Act 1998;
 - 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 **Range**
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.

Disease organisms refers to plant and/or animal disease organisms.

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

Pests refers to one or a combination of – pest plants, plant pests, disease organisms.

Pest plants refers to unwanted plants that are counter-productive in terms of the agricultural purpose.

Plant pests refers to insect and/or other animal plant pests.

Outcomes and performance criteria

Outcome 1

Select and prepare equipment and machinery for applying agrichemicals to control pests in crops or pasture.

Performance criteria

- 1.1 Equipment and machinery selected are appropriate for the work to be carried out.
- Range vehicle, agrichemical application equipment.
- 1.2 Equipment is checked for function and soundness in accordance with company requirements.
- Range may include but is not limited to – tank, pump, hose lines, filters, nozzles, gauges, covers, nuts and bolts, power source, warning lights, signage.
- 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, operating pressure, flow rate, spray pattern, electronic spray control, boom height, agitation.
- 1.4 Equipment is 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 – output, travel speed, swath width, application rate.
- 1.5 Preparation includes completion of notifications, certifications, for any territorial or regional plans in accordance with local council and asset owner's requirements.

Outcome 2

Select and mix agrichemicals for applying agrichemicals to control pests in crops or pasture.

Performance criteria

- 2.1 Agrichemicals, adjuvants, and additives selected are appropriate for the work to be carried out.
- Range may include but is not limited to – pests present, type of crop or pasture, selectivity, soil type, solubility, toxicity, volatility, compatibility, persistence, withholding period; may include proximity to watercourses.
- 2.2 Agrichemicals and adjuvants selected meet client and Territorial Authority (TA)/Regional Council (RC) requirements.
- 2.3 Mixing site is selected 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.

Outcome 3

Determine work pattern for applying agrichemicals to control pests in crops or pasture.

Performance criteria

- 3.1 Work pattern produces systematic agrichemical application over and throughout the entire target area.
- 3.2 Work pattern ensures that under and over-application is minimised and takes account of potential hazards, in accordance with NZS 8409 and HSWA.
- 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 procedures.

Outcome 4

Apply agrichemicals to control pests in crops or pasture.

Performance criteria

- 4.1 Agrichemicals are applied in accordance with NZS 8409, label directions, and client and TA/RC requirements.
- 4.2 Planned work pattern is followed with appropriate adjustments made to suit conditions.
- Range weather, proximity to people, proximity to animals, contour.
- 4.3 Targeting and coverage are in accordance with the determined work pattern.
- 4.4 Agrichemicals are applied with minimal wastage, and no risk of damage to equipment, property structures, and adjacent crops, or harm to the environment.
- 4.5 Safety precautions are observed in accordance with NZS 8409, HSWA, and client requirements.
- Range may include but is not limited to – public notification, public safety, withholding period.
- 4.6 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.
- 4.7 Information is recorded in accordance with NZS 8409.
- Range may include but is not limited to – location, times, targets, agrichemicals used, quantities, application rates, additives used, equipment used, weather conditions, ground conditions, withholding period.

Outcome 5

Carry out post-operational procedures.

Performance criteria

- 5.1 Contaminating residues are removed, and washing is 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 equipment and machinery 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 and/or company requirements.
- 5.5 Equipment and machinery are stored in a safe condition and location in accordance with NZS 8409 and company requirements.
- 5.6 Application records are made in accordance with NZS 8409 and TA/RC, company, and client requirements, and are stored in accordance with company 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	25 June 2007	31 December 2020
Review	2	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.