

Title	Describe calibration, and calibrate motorised agrichemical application equipment		
Level	4	Credits	5

Purpose	<p>This unit standard is for people working in the primary sector who handle agrichemicals.</p> <p>People credited with this unit standard are able to: describe the importance of agrichemical equipment calibration, and other factors which determine effectiveness of spray applications; and calibrate motorised agrichemical application equipment, evaluate calibrations, and make adjustments according to results.</p>
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Classification	Primary Sector > Plant Pest, Weed, and Disease Control
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Available grade	Achieved
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Guidance Information

- 1 Legislation and regulations relevant to this unit standard includes but are not limited to the:
 - Hazardous Substances and New Organisms Act 1996;
 - Health and Safety at Work Act 2015;
 - local regional and territorial authority regulatory requirements.
- 2 The New Zealand Standard applicable to this unit standard is NZS 8409:2004 *Management of agrichemicals*, or subsequent replacement, available from <http://www.standards.co.nz>.
- 3 Reference
Responsible Care™ Management System, available from the New Zealand Chemical Industry Council at <https://www.responsiblecarenz.com/>.
- 4 Definition
Agrichemical – any substance, whether inorganic or organic, man-made or naturally occurring, modified or in its original state, that is used to eradicate, modify or control flora and fauna. It is a subset of agricultural compounds and includes pesticides, spray additives, fertilisers, vertebrate pest control products, and oral nutrition products.
- 5 Range
Motorised agrichemical application equipment includes – boomspray, air blast sprayer, high volume spray race, multi head controlled droplet application (CDA)

sprayer, mister, sheep shower, other motorised application equipment either towed or self propelled;

evidence is required for at least one piece of equipment.

Primary sector may be any one of agriculture, equine, forestry, horticulture, amenity turf, sports turf.

Outcomes and performance criteria

Outcome 1

Describe the importance of agrichemical equipment calibration, and other factors which determine effectiveness of spray applications.

Performance criteria

1.1 Describe the importance of calibration in terms of the achievement of coverage and application rate.

1.2 Describe components of agrichemical application equipment in terms of the checks required for functionality and soundness.

Range may include but is not limited to – tank, tank volume, pump, hose lines, screens, filters, nozzles, gauges, covers, power source, computerised control equipment, mixing system, agitation; evidence is required for at least five components.

1.3 Describe the effectiveness of spray applications in terms of contributing factors.

Range contributing factors may include but are not limited to – application volume, chemical concentration, evenness of application, method of application, speed, terrain, target, chemical rate, water volume, weather and environmental conditions, equipment maintenance, nozzle type, nozzle size; evidence is required for at least ten factors.

Outcome 2

Calibrate motorised agrichemical application equipment, evaluate calibrations, and make adjustments according to results.

Performance criteria

2.1 Identify calibration variables specific to the type of application equipment.

Range variables may include but are not limited to – travel speed, pump pressure and volume, swath width, application rate, air output, profile, volume, nozzle (type, size, spacing, wear); evidence is required for at least three.

2.2 Complete calibration calculations appropriate to tasks performed in accordance with calibration variables.

- 2.3 Check and calibrate volumetric equipment for the task.
- 2.4 Evaluate the calibration set-up and calculations, and make adjustments for optimum effectiveness in accordance with results.

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	27 May 2005	31 December 2013
Review	2	18 August 2011	31 December 2022
Review	3	28 November 2019	N/A

Consent and Moderation Requirements (CMR) reference	0232
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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 the Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.