Title	**Demonstrate knowledge of dairy effluent and prepare, implement and monitor a dairy effluent application plan**		
Level	**4**	**Credits**	**15**

Purpose	People credited with this unit standard are able to: demonstrate knowledge of the impacts of application of dairy farm effluent; describe the function of dairy effluent system components and environmental impacts; describe potential operational risks of a dairy effluent system and actions to mitigate these operational risks; prepare and document a plan for the application of dairy effluent onto pastures; and implement and monitor the dairy effluent application plan.

Classification	Agriculture > Dairy Farming

Available grade	Achieved

Guidance Information

1 Legislation and regulations relevant to this unit standard include but are not limited to:
- Health and Safety at Work Act 2015;
- Resource Management Act 1991;
- Territorial and local authority bylaws;
and any subsequent amendments.

2 Reference
NZCP-1, New Zealand Dairy Industry Farm Dairy Code of Practice, New Zealand Food Safety Authority, ISBN 0-908946-00-7, referred to as the code of practice.

3 Definitions
Dairy effluent refers to faeces, urine, washdown water, spilled milk, soil, feed residues, detergents and other chemicals, and stormwater from the farm dairy and feed pads.
Soil water deficit refers to the difference between current soil water content and field capacity, in millimetres.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the impacts of application of dairy farm effluent.

Performance criteria

1.1 Describe the impacts of phosphorus and nitrogen in terms of excess nutrient loading and associated risks to water quality.

1.2 Describe the impacts of potassium in terms of excess nutrient loading and associated risks to livestock animal health.

1.3 Describe bacteria and other pathogens in terms of the risks they present to livestock grazing pasture.

1.4 Describe bacteria and other pathogens in terms of the risks they present to water quality.

1.5 Describe how effluent storage can impact greenhouse gas emissions.

1.6 Describe the impacts of odour when applying dairy effluent in terms of meeting best practices on farm.

Range impacts may include but are not limited to – milk supplier requirements, customer perceptions, regulatory requirements; evidence of two impacts is required.

1.7 Identify health and safety risks to people associated with dairy effluent application.

Range evidence of three risks is required.

1.8 Describe how health and safety risks to people associated with dairy effluent application are managed using the HSW Act's hierarchy of controls to eliminate or minimise the risks.

Range evidence of three risks is required.

Outcome 2

Describe the function of dairy effluent system components and environmental impacts.

Performance criteria

2.1 Describe the functions of dairy effluent system components and associated management procedures for optimising nutrient re-use.

2.2 Describe the functions of dairy effluent system components and associated management procedures for minimising adverse environmental impacts.

Outcome 3

Describe potential operational risks of a dairy effluent system and actions to mitigate these operational risks.

Performance criteria

3.1 Describe potential operational risks of a dairy effluent system in terms of local authority bylaws and consents.

3.2 Describe actions to mitigate operational risks in terms of local authority bylaws and consents.

Outcome 4

Prepare and document a plan for the application of dairy effluent onto pastures.

Performance criteria

4.1 Identify the effluent application area for nitrogen loading in accordance with regional council nitrogen limits.

4.2 Identify the effluent application rate, application depth, and soil water deficit in relation to the soil type in the application area.

4.3 Identify factors influencing effluent application sites in accordance with regional council guidelines and consent conditions.

Range factors include but are not limited to – access, wind, proximity to houses, topography, soil type, proximity to ground water, surface waterways, stock water supply, and location, and in accordance with NZCP1 hygiene requirements, and regional council guidelines and consent conditions;
evidence of five factors is required.

4.4 Describe contingencies in the event of system failure in accordance with regional council guidelines and consent conditions.

Range system failure includes but are not limited to – mechanical breakdown, adverse environmental events.

Outcome 5

Implement and monitor the dairy effluent application plan.

Performance criteria

5.1 Implement and monitor the application of dairy effluent onto pastures in accordance with the effluent application plan.

Planned review date	31 December 2027

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	17 July 2009	31 December 2024
Review	2	29 September 2022	N/A
Revision	3	25 January 2024	N/A

Consent and Moderation Requirements (CMR) reference	0052

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.