

Evaluate an on-farm dairy effluent management system, and develop an on-farm dairy effluent management plan

Level 4

Credits 15

Purpose People credited with this unit standard are able to: evaluate the on-farm dairy effluent system design and associated management procedures for maximising nutrient re-use and minimising environmental damage; identify and evaluate possible improvements to the on-farm dairy effluent system design and associated management procedures; develop and document procedures for an on-farm dairy effluent management plan to maximise nutrient re-use and minimise environmental damage; and prepare an effluent application plan for the application of on-farm dairy effluent onto pastures.

Subfield Agriculture

Domain Dairy Farming

Status Registered

Status date 17 July 2009

Date version published 17 July 2009

Planned review date 31 December 2011

Entry information Open.

Accreditation Evaluation of documentation and visit by NZQA, industry and teaching professional in the same field from another provider.

Standard setting body (SSB) Primary Industry Training Organisation

Accreditation and Moderation Action Plan (AMAP) reference 0052

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Special notes

- 1 Legislation and bylaws include but are not limited to – Resource Management Act 1991, territorial and local authority bylaws.

- 2 References
NZCP1: New Zealand Dairy Industry Farm Dairy Code of Practice, New Zealand Food Safety Authority, 2007.
Farm Management Issues, Dairying and Environmental Committee, 2001; and
Managing Farm Dairy Effluent, Dairying and Environmental Committee, 2006;
(referred to as the *DEC Manuals*) both available from
http://www.trc.govt.nz/environment/land.htm#oxidation_design.
- 3 Range
Evidence is required for one full on-farm effluent management system.
- 4 Resource consents
CRC079255 – to discharge contaminants to land;
CRC079256 – to store dairy effluent on land.
- 5 Definition
Dairy effluent refers to dairy effluent material containing between 5–20% solids.
- 6 Where relevant, procedures must be consistent with manufacturer’s maintenance recommendations for the equipment used.
- 7 The focus of this unit standard is on evaluation of an existing on-farm dairy effluent system, to identify possible improvements to that system, and to develop procedures and an effluent application plan. For knowledge related to management of effluent in a livestock operation, disposal options, and effluent management system operation, refer to unit standard 584.

Elements and performance criteria

Element 1

Evaluate the on-farm dairy effluent system design and associated management procedures for maximising nutrient re-use and minimising environmental damage.

Performance criteria

- 1.1 The on-farm dairy effluent system design and associated management procedures are evaluated for their efficiency in maximising nutrient re-use in accordance with local authority bylaws and the DEC Manuals.
- 1.2 The on-farm dairy effluent system design and associated management procedures are evaluated for their efficiency in minimising environmental damage in accordance with local authority bylaws and the DEC Manuals.

Element 2

Identify and evaluate possible improvements to the on-farm dairy effluent system design and associated management procedures.

Performance criteria

2.1 Possible improvements to the on-farm dairy effluent system design and associated management procedures are identified in accordance with the results of evaluation.

Range includes but is not limited to – mitigation of risk; evaluation results are those from element 1.

2.2 Possible improvements to the on-farm dairy effluent system and associated management procedures are evaluated by cost benefit analysis.

2.3 Possible improvements to the on-farm effluent system take into account future farm activities and external influences that may directly affect the capabilities of the dairy effluent system.

Range future farm activities may include but are not limited to – increase in stock numbers, changes in land use; evidence is required for at least one future farm activity; external influences include but are not limited to – trends in weather patterns, availability of water.

Element 3

Develop and document procedures for an on-farm dairy effluent management plan to maximise nutrient re-use and minimise environmental damage.

Range evaluation results are those from element 1.

Performance criteria

3.1 Daily procedures for managing on-farm dairy effluent are developed and documented in accordance with the results of evaluation, the DEC Manuals, and local authority bylaws and consents.

Range includes but is not limited to daily procedures to – minimise water use in the farm dairy; check the effluent management system for operational faults during and following use, establish suitability of effluent for land application, make adjustments to land application rates to suit soil moisture conditions when applying effluent to land; minimise risks to the environment from equipment and power failure, offset shortage of labour, operate equipment safely.

3.2 Weekly procedures for managing on-farm dairy farm effluent are developed and documented in accordance with the results of evaluation, the DEC Manuals, and local authority bylaws and consents.

Range includes but is not limited to weekly procedures for – maintenance of the effluent system, stock exclusion from effluent treated pastures.

3.3 Annual procedures for managing on-farm dairy farm effluent are developed and documented in accordance with the results of evaluation, the DEC Manuals, and local authority bylaws and consents.

Range includes but is not limited to annual procedures for – maintenance of the effluent system; training for staff operating the effluent system.

Element 4

Prepare an effluent application plan for the application of on-farm dairy effluent onto pastures.

Performance criteria

4.1 The plan specifies the land application area in relation to nutrient and hydraulic loading, and is in accordance with regional council nitrogen limits.

4.2 The plan specifies land application rate in relation to hydrological factors, nutrient loading design, soil type, and periods of application, and is in accordance with regional council rules and consent conditions.

4.3 The plan specifies the application sites in relation to access, wind, proximity to houses, topography, soil type, proximity to ground water, surface waterways, stock water supply, and location, and is in accordance with NZCP1 hygiene requirements, and regional council rules and consent conditions.

4.4 The contingency plan specifies actions required in the event of system failure and is in accordance with regional council rules and consent conditions.

Range system failure due to – mechanical breakdown, adverse environmental events.

4.5 The plan is documented in accordance with regional council guidelines.

Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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.