

Guide to Fertiliser Use

Technical Volume 6



Audit Requirements

Nutrient Management Objectives:

- Use nutrients efficiently and minimise nutrient losses to water.
- Nutrient losses do not exceed consented nitrogen loss limits.
- Phosphorus and sediment losses from farming activities are minimised.
- Manage the amount, timing and application of fertiliser inputs to match the predicted plant requirements and minimise nutrient losses.
- Store and load fertiliser to minimise the risk of spillage, leaching and loss into water bodies



What does it mean for me?

You need to demonstrate fertiliser use on your property is efficient and appropriate to minimise the leaching risk and the loss to water.

Irrigo Centre Irrigation Schemes (Acton Farmers Irrigation Cooperative Ltd, Ashburton Lyndhurst Irrigation Ltd, Barrhill Chertsey Irrigation Ltd and MHV Water Ltd) are required to meet nitrogen loss reductions as stipulated in Environment Canterbury's Land and Water Regional Plan. This means that shareholders are required to be operating at Good Management Practice from 2020 onwards. Good Management Practice is demonstrated by achieving an "A" grade in your Audit.

C.R.A.F.T

'C.R.A.F.T' is an easily remembered acronym that highlights the fertiliser use factors that land managers can readily control. It stands for:

Choice of fertiliser product
Rate of application
Application technique
Frequency of application
Timing of application

Carefully considering each of the C.R.A.F.T elements allows fertiliser application practices to be planned and meet productions and environmental objectives. Managing the product, rate, application technique, frequency and timing of application should ensure that nutrients are available in the right amounts at the right location and at the right time to meet plant needs. This will improve the efficiency of nutrient use and minimize the potential for nutrient loss.

Efficient Nutrient Use = Right Amount, Right Location and Right Time

Good Management Practices (GMP) for Fertiliser use includes:

- ✓ Regular soil testing completed at least every second year
- ✓ Deep N testing used to plan fertiliser recommendations
- ✓ For Dairy Farms ensure fertiliser applications are reduced on effluent areas due to increase nutrients provided by liquid effluent

- ✓ Obtaining fertiliser recommendations from fertiliser company or farm advisor based on soil test results and using these to make efficient fertiliser use decisions. This includes a Nutrient Management Plan that is developed with agronomist/fertiliser advisor annually.
- ✓ Maintaining good fertiliser application records. Some fertiliser companies have their own interface which records the time and amount of each fertiliser application (e.g. My Ballance, Ravensdown's HawkEye, Precision Tracking).
- ✓ Ensure fertiliser is applied at appropriate times to match pasture and/or crop growth demand. This includes not applying fertiliser in high risk months (e.g. May, June or July) and when the 10cm soil temperature at 9am is less than 6°C and falling. During these times is when plant nitrogen uptake is slow and there is a greater risk of leaching loss.
- ✓ Soil phosphorus is maintained at or below optimal agronomic levels.
- ✓ Ensuring you use Spreadmark accredited contractors to spread fertiliser. Some contractors can also provide Proof of Placement maps for fertiliser application.
- ✓ If shareholders apply fertiliser with their own spreader, they need to ensure the spreader is regularly calibrated after so many hours or every three years (which ever one comes first). Spread Test NZ provides calibration testing for fertiliser spreaders and their contact details are: 021 215 4361 or admin@spreadtestnz.com.
- ✓ Ensure the Simple N Surplus is less than 250 kg N/ha. This is calculated by combining the amount of N fertiliser applied, effluent applied and supplemented imported and subtracting product:



$$\begin{array}{c} \text{Sum of Inputs (Fertiliser + Imported Effluent + Supplements)} \\ \text{less} \\ \text{Sum of Outputs (Product) = Simple N Surplus} \end{array}$$

- ✓ Where fertiliser is stored on farms, ensure storage is secure, bunded and where there is no risk of loss to the environment (e.g. groundwater, waterbodies). Fertiliser storage facilities could include a bunded fertiliser silo or a bunded covered shed with concrete walls and floor. The auditor needs to be confident that fertiliser is stored on an impermeable surface.



Evidence to show the auditor you are meeting targets:

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|-------------------------------------|---|
| ✓ Soil Test Results | ✓ Fertiliser Spreader Calibration Results |
| ✓ Advisor Recommendations | ✓ TracMap/GPS Map/Precision Tracking |
| ✓ Contractor Spreadmark Certificate | ✓ Visual Assessment of Fertiliser Storage |
| ✓ Fertiliser Application Records | |
| ✓ Soil Moisture Records | |

Supporting Documentation

- Fertiliser Association, Best Management Practices and Considerations - Fertiliser
- Code of Practice for the Placement of Fertiliser

Paddock recording template for Fertiliser Applications

Paddock Name:

Current Crop:

[illegible]