

Reducing nitrogen loss on your farm

Farmers across Canterbury are being asked to do more to reduce nitrogen leaching. There are several impactful and cost-effective actions you can take to achieve lower nitrogen loss and improve farming efficiency.

Planting catch crops after winter grazing on forage crops

Catch crops can serve to mop up excess nitrogen that has been left in the soil, reducing the amount of nitrate that can be leached during one of the highest-risk times of year.

In Canterbury, oats, ryecorn, triticale, wheat and barley can all be effective catch crops.

Catch crops should be sown as soon as practicable after the grazing of winter forage crops. This will allow them to use the nitrogen in the soil and produce a cost-effective spring feed for livestock.

Plant & Food Research has more information on the benefits and best management of catch crops. See plantandfood.com for more information.

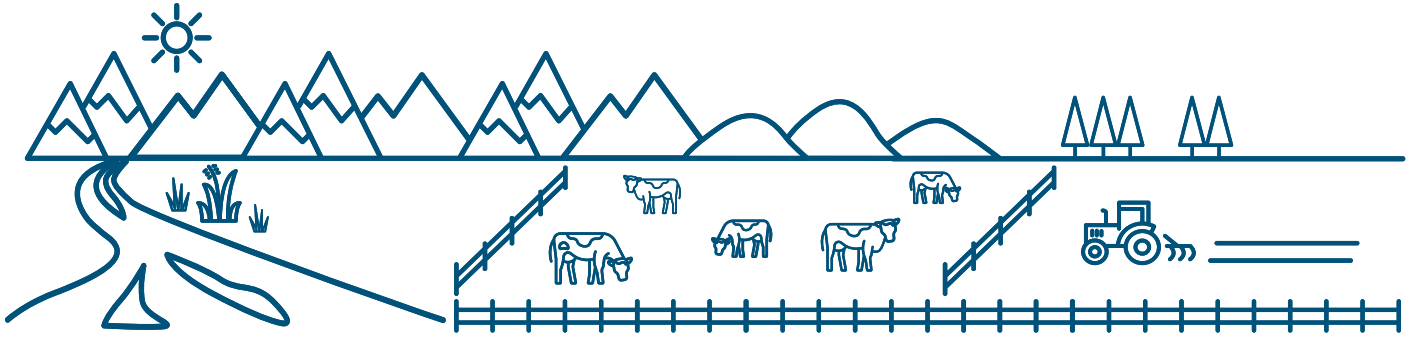
Scheduling irrigation

Irrigation should be managed to optimise plant growth while minimising drainage and loss of nutrients to water.

During the spring and autumn shoulder seasons, when evapotranspiration rates are lower, and the full point trigger for irrigation can be different than during the main dry season. Soil moisture can be managed slightly lower to allow for as much rainfall capture as possible when rainfall events occur.

This requires monitoring of soil moisture, weather forecasts, and crop requirements, and adjusting irrigation targets in a soil water budget to ensure rainfall is captured and does not lead to excess nutrient loss.

Irrigation NZ has resources on how to use soil moisture technology and soil water budgets to support crop growth whilst achieving good environmental outcomes. See irrigationnz.co.nz for more information.



Sowing plantain in pasture

Plantain has been shown to dilute nitrogen in cow urine, leading to reduced nitrate leaching in grazed soils. It can be adopted into a pastoral system with the appropriate management techniques.

DairyNZ has been leading plantain research and can help with decisions around how and when to plant, and how much plantain to sow.

Farmers wanting to use plantain as part of their nutrient management plan will need to use an approved cultivar according to the DairyNZ Plantain Cultivar Evaluation System, and the DairyNZ Assessing Plantain On Farm tool to determine the proportion of plantain in the diet. See dairynz.co.nz/plantain for more information.

Conducting soil nitrogen testing

Knowing the amount of potentially mineralizable nitrogen (PMN) in your soils is key to understanding how much nitrogen fertiliser to apply – potentially benefiting both your wallet and the environment.

The recent development and adoption of PMN testing means it is available at your soil testing laboratory. Submit soil samples prior to fertiliser application to measure the soil nitrogen availability and match it to crop requirements.

Plant & Food Research has been developing the tools and research on soil nitrogen testing and has produced guidance to support the use of this mitigation strategy on farm.

While this work has focused on arable systems, further research is being undertaken on the use of nitrogen testing in the pastoral sector. See plantandfood.com for more information.



Where to get help

Check the website

For more information about the nitrogen loss reduction, visit ecan.govt.nz/n-loss

Industry support

Your industry body (Foundation for Arable Research, Plant & Food Research, Irrigation NZ and DairyNZ) will be able to help with nitrogen loss reduction tips.

Talk to your Zone team

Your local land management advisor can help you with advice on how to reduce nitrogen loss. For support in your local area, give us a call on 0800 324 636. We can arrange for your local land management advisor to contact you by email, phone, or face to face.