

Field day - bioreactors to remove nitrate from farm drainage

Waingongoro Catchment and
'Catchment Solutions', Massey University



Tuesday 13 May 2025 @11.00 am

Ross Dunlop's farm

174 Ohawe Road

OHawe



TIAKI WAI | CARING FOR LAND & WATER

Woodchip bioreactors are a simple, but very effective, way to strip nitrate out of drainage water as it leaves the farm. They could well play a major role in improving water quality in Taranaki.

Come along and learn about the woodchip bioreactor that 'Catchment Solutions' Massey University, in collaboration with TCC, have built on Ross Dunlop's property near Ohawe.

Could a bioreactor be a good option on your farm? Bring samples of drainage water from your farm to the field day where we will have a very accurate probe to quickly measure the nitrate concentrations of these samples (see over the page).

Program

- 11.00 am. Introduction
- 11.15 am - Why a bioreactor – the analysis of farm drainage water.
- 11.30 am – The design of a bioreactor
- 11.45 am – Constructing a bioreactor
- 12.00 pm. Tour of the bioreactor
- 12.30 pm – Lunch provided, and testing of your drainage samples

Bring your Farm Water Samples in for Testing on the night – Results will be kept confidential!

How to collect a water sample*

- Source clean water sampling bottles (e.g., clean ~ 1 L plastic bottles)
- Identify and locate your water sampling sites (potentially small stream, surface drain and/or tile drains running from your farm)
- Label the sample bottle (location co-ordinates, sample id, date and time, contact of sampler) – you can design your own sample id labelling scheme, using initials and site number, e.g. “HFarm_Site1_tiledrain” and “HFarm_Site2_surfacedrain”)

Your water sample label or info sheet should include:

Location: label, co-ordinates from your phone, (might be worthwhile taking a photo of the sampling site)

Sample id:

Date and time:

Contact details (optional):

- Collect water sample – Collect your water sample from the running/flowing waters (not stagnated or close to banks). Rinse your water samples bottles 3 times with this flowing water before collecting the sample. See example videos below which show how to collect your sample from the stream or farm drain.
- Keep the sample in the fridge, chilly bin/cooler with some ice packs (<4°C)
- Bring your sample with the info sheet to the water quality testing during the workshop.
- Your sample will be tested for its water quality (mainly nitrate) and results will be discussed with you and kept confidential!

***See some videos on how to collect your sample from the stream or farm drain**

<https://niwa.co.nz/videos/how-to-collect-a-water-sample>

<https://www.youtube.com/watch?v=iB7XY3wD1-E>