

# Effluent management

*For the health of our waterways and groundwater*

## GENERAL INFORMATION

Dairy farm effluent is now an even more valuable resource, for its nutrient value continues to increase as fertiliser prices rise. Treat effluent as a fertiliser.

However, it needs to be managed with care because it is not a balanced fertiliser, being very high in potassium. This can lead to higher leaching levels of magnesium and subsequent animal health problems if potassium soil test levels are high. You can manage this risk by increasing the effluent area or by making silage on the effluent area and feeding it out on non-effluent areas of the farm.

Applying shed effluent at light rates will ensure stock feed intakes are not adversely affected.

Managing dairy effluent is also necessary for the health of our waterways and groundwater, so knowing the regional council's rules for effluent management is important.

Under the Waikato Regional Plan you cannot exceed 25mm per application and 150kg of nitrogen from effluent per hectare per year. So you need to know how much your irrigator is applying and how concentrated your effluent is.

Dairy effluent must not discharge into surface water or contaminate groundwater. Having the capacity to store effluent before it is applied to land means effluent doesn't have to be applied during wet periods when the risk of surface ponding and run off is high. This substantially reduces the risk of overflows to surface water and plant nutrient uptake is maximised.



Storage pond for dairy shed effluent allowing land based effluent application at optimal times.

Effluent storage facilities should be sealed to the required standard of  $1 \times 10^{-9}$  m/s. Storage should be correctly sized for your individual farm system and management.

Having adequate storage means that you:

- can defer irrigation in wet weather
- lower the risk of ponding, run off and leaching in wet weather
- irrigate when plant uptake is maximised
- can irrigate in dry weather
- can store effluent during mechanical breakdown
- have less stress during busy times e.g. calving.

Increasing your effluent area means that you:

- spread nutrients further, reducing fertiliser requirements and associated costs
- slow the build up of potassium in effluent paddocks which can lead to animal health problems in the early spring
- have more flexibility in grazing around effluent applications and safer withholding periods prior to grazing.

The Pond Calculator is an excellent tool if you are building a new effluent pond. Accredited effluent system designers will assist in matching all components of effluent management to your farming system.



An effluent irrigator in action.

## RECOMMENDED ACTIONS AND BEST MANAGEMENT PRACTICES

- Test your effluent for nitrogen, phosphorus, potassium and sulphur.
- Check irrigator performance by measuring the application depth and rate.
- Adjust irrigator speed to ensure good pasture uptake of applied effluent nitrogen.
- Run irrigators as fast as possible so that effluent application is light.
- Soil test the effluent area separately from the rest of the farm.
- Regularly maintain the irrigator, pump and pipes.
- Expand the effluent area if possible.
- Have storage for effluent so that it can be applied to land at optimal times.
- Have correctly sized storage for your farm management.
- Effluent storage facilities should be sealed to the required  $1 \times 10^{-9}$  m/s.
- Divert rainwater from the farm dairy before it reaches the effluent system.
- Reduce effluent volume with efficient wash down practices in the farm dairy.
- Increase the number of times your contractor comes to spread effluent from your holding pond.
- Use an accredited effluent system designer when looking at upgrading your system.
- Avoid irrigating effluent over subsurface drained land.
- Hump and hollowed paddocks require extra care when irrigating effluent as there is an increased run off risk.
- Instruct your contractor on the application rate and depth required.
- If you still need to spread effluent to manage pond levels between contractor visits, consider installing a low rate effluent irrigation system.
- Spread effluent evenly on flatter areas that are less susceptible to run off.
- Consider effluent application to paddocks that have never had effluent applied and send the contractor there.
- Use accredited effluent system design companies for advice.

**Run irrigators as fast as possible so that effluent application is light.**

## MORE INFORMATION

### Contact

- Waikato Regional Council  
Freephone 0800 800 401

### Publications

Download or order the following publications at [www.waikatoregion.govt.nz/publications](http://www.waikatoregion.govt.nz/publications) or freephone 0800 800 401:

- Farm dairy effluent: frequently asked questions
- Effluent irrigation rules

Other factsheets in this series:

- Efficient use of phosphorus
- Environmental hotspots
- Managing soil fertility
- Nitrogen
- Nitrogen leaching
- Nutrient management
- Soil management
- Waterway management

### Web

- [www.waikatoregion.govt.nz/ForFarmers](http://www.waikatoregion.govt.nz/ForFarmers)
- [www.effluentaccreditation.co.nz](http://www.effluentaccreditation.co.nz)
- [www.dairynz.co.nz/effluent](http://www.dairynz.co.nz/effluent)
  - A Farmer's Guide To Managing Farm Dairy Effluent (pdf)
  - Effluent Storage Ponds (link)
- [www.ipenz.org.nz/ipenz/forms/pdfs/](http://www.ipenz.org.nz/ipenz/forms/pdfs/)
  - Farm Dairy Effluent Ponds (pdf)
  - Dairy Farm Infrastructure (pdf)