

Dairy Farmer News

ISSUE 10 | WINTER 2015

IT'S ALL ABOUT WATER QUALITY!

Requests for visits

Regional council officers will visit farms on request to advise on effluent infrastructure and management. A written record of the visit is provided and recommendations for improvements are included. These visits are free of charge.

If you want risk assessment or advice on your infrastructure, please phone one of the Farm Dairy Effluent team (see back page for contact details).

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Farm infrastructure – points to keep in mind

The infrastructure required for effective effluent management varies according to a number of factors, including:

- Cow numbers
- Calving regime
- Milking regime, and
- Infrastructure used.

Re-assessment of the capability of the effluent system is required when:

- Cow numbers are increased
- There is a change from all spring calving to split or full autumn calving
- Additional infrastructure, such as a feedpad, is added.



High cow traffic areas around the dairy or pad (like the example above), which may not have been a problem before changing to winter milking, may need to have effluent reticulated to the effluent system.

Most resource consents for farm effluent discharges include a condition which requires that: "The consent holder shall notify the council's monitoring manager in writing of any increase in cow numbers or change to the calving regime at least one month prior to that change being made."

The requirement for notification is to allow council to assess whether the system is capable of managing the additional effluent volumes and loadings while remaining compliant with resource consent conditions.

If the effluent system is not upgraded, unlawful and potentially-polluting discharges are likely.

A change from all spring calving (with no winter milking) to full autumn calving could require an increase in effluent pond volume of up to 60%.

If you are considering management changes which may require improvements to your effluent management infrastructure, you should call one of the regional council's Farm Dairy Effluent team well in advance of the proposed change.

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Ponds empty for winter

Farms with land application systems should by now have reduced the levels of their ponds so they are "at or near empty" prior to winter.

Routine operating procedures should include the following, which are required by many resource consents:

- Empty ponds in autumn and keep them empty as long as conditions are suitable for land application (when soil moistures are in deficit and land application can be done effectively and legally)

- Permanently divert all roof water away from the effluent system (see story on facing page)
- Divert rainwater on the yard away from the ponds whenever the yard is clean, especially during winter when the yard is not in use
- Apply effluent to land again as soon as conditions are suitable i.e. soils are in moisture deficit and pasture is growing.

If these procedures are followed and you have adequate contingency storage, you should not need to discharge from the ponds or irrigate to wet soils.



Any system is only as effective as its weakest link – a little bit of maintenance to these irrigators would have gone a long way.

Adding water/ stormwater to effluent ponds

Intentionally adding water to effluent ponds to use for pasture irrigation is not allowed. It can also:

- Stop treatment ponds from working properly
- Cause offensive odours
- Cause unnecessary effluent discharges to water
- Result in irrigation to pasture when conditions are not suitable.

Taking extra water is also unfair on downstream users who, as a consequence, may struggle during dry periods for sufficient water to carry out their normal farming operations.

It is very unlikely that labour, pumping and maintenance costs are recovered – the growth response observed when effluent is applied to pasture is mainly due to added nutrients.

Reminder: If you wish to carry out pasture irrigation, application for separate resource consent is required.

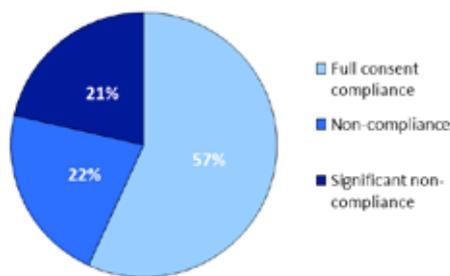
2014-15 compliance

Northland's compliance rates for the 2014-15 season show that the positive trend established in previous years did not continue.

Compliance rates for 2014-15 and the main reasons for significant non-compliance are summarised in the graph and table at right.

Continues on back page

2014/15 Compliance - All Farms



Reasons for significant non-compliance 2014-15

Water quality test results outside consent limits	36
Discharge of treated effluent to water (without resource consent)	25
Discharge of untreated effluent to water	63
Discharge from irrigator to water or excessive ponding and/or overland flow	32
Inadequate management (blocked pipes, sump/pond overflow etc.)	35
Other	15
Total	206

Significant savings from effluent volume reductions

Projects are underway on two Northland dairy farms to reduce effluent volumes and achieve more efficient water use.



Ken Westlake of Mayflower Farms shows some of the equipment installed.

Mayflower Farms Ltd at Brynderwyn (owned by Ken and Richard Westlake) began their project in late 2013, while Waiotu Farms Ltd (owned by Kevin and Michelle Alexander) at Waiotu, Hukerenui installed meters just before the 2014-15 spring calving, with telemetry added later.

Results to date have shown Waiotu Farms in particular had opportunities to reduce effluent volumes by:

- Diverting stormwater from buildings and other catchment areas away from the ponds
- Diverting clean water used for vacuum pump cooling away from the ponds
- Reducing the amount of water used for driving the backing gates at the yard
- Reducing the amount of water used in yard washing.

To date, significant volume reductions have been made (see graphs below). Gains include:

- Diverting at least 330m³/season of roofwater away from the ponds
- Diverting 420m³/season of vacuum pump cooling water
- Reducing the volume of water used for driving backing gates and washing the circular yard by almost 75%
- Reducing the total dairy use by more than 30%.

Cost savings include:

- Lower costs for pumping water from source
- Reduced run times on the irrigator and consequent labour savings
- Lower costs for pumping effluent.



Left to right: Waiotu Farms Ltd farm manager Dan Robinson and director Kevin Alexander measure water flows with Myles Stenner of Klasse as part of the project.

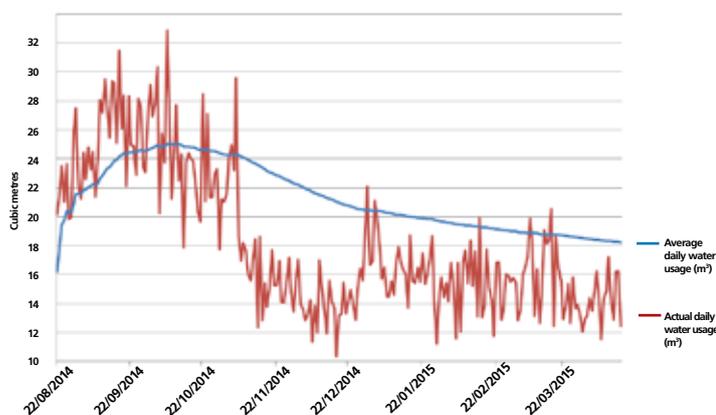
Other advantages, due directly to the use of telemetry to transmit data from the water meters, have been:

- Prompt identification of pumping issues e.g. blocked suction causing low or no flow
- Early indication of significant leaks in reticulation.

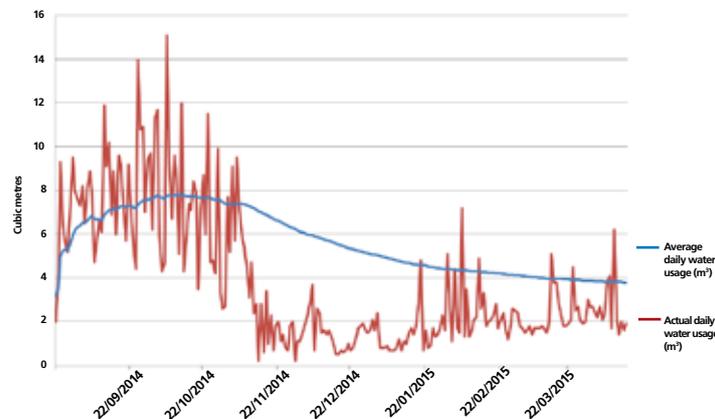
Generous assistance in setting up these projects has been received from:

- Myles Stenner of Klasse, who has donated meters, hose nozzles, pipes and fittings, his time and travel costs - and not least a lot of humour
- Watercheck Ltd, which installed telemetry units on four water meters at Waiotu Farms to transmit data back to the Watercheck website. Access to this site has also been provided free of charge.

Daily water usage for Waiotu Farms dairy shed



Daily water usage for circular yard wash



Positive trends

Continued shift from discharges to water to land application

- A land application (council's preferred disposal option) rate of 70% achieved voluntarily, without rules.

Use of effluent to promote crop growth

- Farmers report good growth rates and yields
- Widely used for maize and other crops e.g. chicory.

Rainwater diversion

- Emphasis on reducing the volume of clean water entering ponds
- Diversion of roof water is a low cost way of reducing volume
- Good uptake by farmers.

Covered pads

- More purpose built off-pasture systems
- Many are covered (roofed), with effluent dry scraped into covered bunkers
- Much reduced use of "sacrifice paddocks" and consequent sediment discharge.

Ponds

- New ponds are being constructed, as and when necessary.

Improvements in water quality

- Encouragingly, recently-published trend analysis shows that water quality remains stable with some signs of improvement in many of Northland's waterways.

Proper disposal of dead stock

Incorrect disposal of dead stock and offal can cause health and environmental issues. It can also become very public and thereby portray an ugly image for all farmers.

Regional Rule 17, relating to the disposal of dead stock and offal as a "permitted activity", requires that:

- Any dead stock or offal disposal site must be not be less than 50 metres, measured horizontally, from any surface water or water supply bore and
- Not less than 50 metres from any residence
- There is no discharge to surface water
- Catchment stormwater is prevented from

entering the disposal site

- Dead stock and offal must be covered to prevent nuisance odours and deter vermin.

If, during monitoring visits, it is identified that dead stock have not been disposed of properly, the farm may be assessed as "significantly non-compliant".

Provision must be made for proper disposal of dead stock and offal. Disposal sites can be prepared in advance on suitable (preferably elevated) sites away from water, houses and property boundaries. As necessary, dead animals and offal can be placed in these pits and covered with soil.

Some farmers import sawdust to cover and compost dead stock.



Carcasses will compost rapidly in sawdust if the rumen is ruptured.

Contact us

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