

Dairy Farmer News

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IT'S ALL ABOUT WATER QUALITY!

Effluent management plans

When it comes to compliance with consent conditions and/or regional rules, it's often not the system itself that's the issue – it's how the system is managed.

The council's farm dairy effluent staff have recently helped a number of farmers develop and implement operating procedures and management plans for their effluent systems.

If you're interested in an effluent management plan to help you and your staff comply with farm dairy effluent rules and consent conditions, contact us on **0800 002 004**.

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Compliance results improve significantly

Last season's farm dairy effluent monitoring results showed a marked improvement over previous seasons, with full compliance increasing to 61% and significant non-compliance reducing to 21%.

The results are very encouraging and reflect the investment and commitment being made by most Northland farmers to improve the way that they manage their effluent.

However, with one in five farms needing to upgrade their effluent disposal systems and/or having systems that aren't being properly managed, there is still room for further improvement in compliance rates.

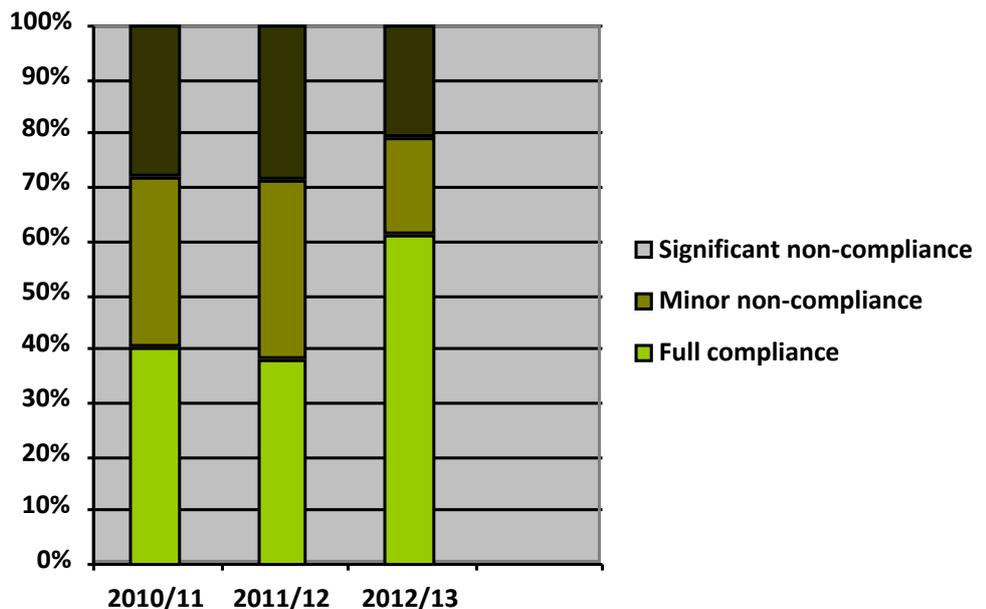
The most common reason for significant non-compliance last season was untreated effluent being discharged to water from various sources including feedpads, underpasses, entry/exit races and stormwater bypasses.



Another challenge for farmers is to ensure that their effluent systems keep pace with increases in cow numbers, including how those systems are managed. This is likely to require improved operating procedures and additional training of farm staff involved in the management of the systems.

The following table shows compliance rates for the last three seasons for all farms monitored.

Compliance results 2010-2013



Controlling vegetation on ponds

Weeds or grass growing on the surface of treatment ponds reduces their treatment capability, as effluent solids tend to accumulate and solidify in the weed mass.

Weeds and grass also shade sunlight, which kills off pathogenic bacteria in the effluent and reduces the effectiveness of the wind, which introduces oxygen into the effluent.

Vegetation on effluent storage ponds can also result in pumping and pipe blockage problems, therefore growth on the surface of the ponds must be controlled.

Vegetation on the embankments of the pond should be retained to protect the embankments from cracking during dry conditions.

Occasional short-term grazing by light animals only during dry conditions is a good way to keep vegetation on the embankments under control.

Remember: only the vegetation on the actual pond's surface should be controlled.



Excessive weeds.

Introducing Rachael Anderson



Rachael joined the council's farm dairy effluent team in April, replacing former staff member Tim Senington.

She has recently completed a double degree at Victoria University, with a Bachelor of Science (BSc) majoring in environmental studies and geography plus a Bachelor of Arts.

Rachael will become a familiar face as her role takes her around many of Northland's dairy farms monitoring compliance with regional effluent rules and consent conditions.

Annual compliance visits



As in past seasons, council contractors and staff will be doing routine compliance monitoring visits (without prior notification) during the 2013-14 dairy season.

The contractor is Geoff Dacre of Effluent Monitoring Services Limited. Geoff is by far the most experienced farm dairy effluent monitoring contractor in New Zealand, having done close to 10,000 farm inspections since starting effluent monitoring with QCONZ in 2003.

Geoff's car will carry both Northland Regional Council and Effluent Monitoring Services logos.

If you're not around during the visit, we will leave a "notice of visit" at the dairy to let you know we've visited your farm.

Where actual or likely water pollution is identified during a visit, every effort will be made to contact someone on farm at the time. If this is unsuccessful an "Urgent Action Required" notice will be left at the dairy which will explain the problem and request remedial action.

Managing effluent volumes – water use

The biggest challenges with effluent management are caused by volume.

The question is, what's more cost-effective – reducing volume through better water management, or accepting higher effluent management costs (and potential costs of non-compliance)?

Smart water use can help reduce your effluent volumes and, in some cases, even avoid the need for additional ponds to be constructed. Here are some simple water efficiency considerations.

Install spouting on the dairy roof and divert rainwater away from the system. Many dairies already have spouting and simply need to re-instate or re-route the downpipes.



An example of a water meter suitable for farm dairy. It can be set up to connect to remote reading systems.

Better management of your milk cooling water. Things to consider:

- How much water do you use?
- Where does it go after the plate cooler?
- Does it all go into flood wash drums and across the yard?
- Do you need to use it all for the backing gate or wash-down or let it just run across the yard to the effluent system?

- Does the water tank overflow onto the yard?
- Do you stop the cooling water when there's no milk going through the cooler?

Water-driven backing gates. Water-driven backing gates often cause challenges for effluent management – some farms have had effluent systems which complied consistently until an electrically driven backing gate was replaced by a water-driven one. If your backing gate is water-driven, consider:

- How much water does it use?
- Is the water flow controlled?
- Would an electrically driven gate be better?

Install meters on water lines to the dairy – knowing what you're using will better enable you to identify opportunities to reduce water use volumes.

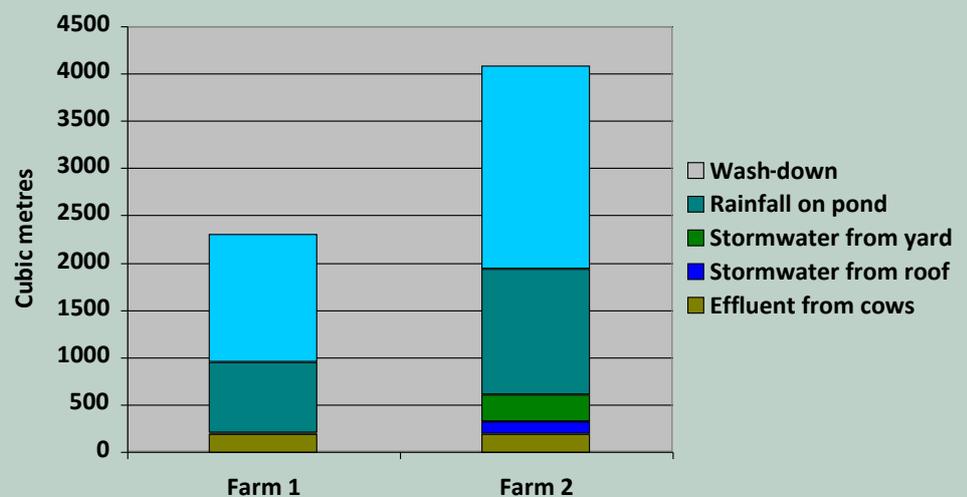
Smart water use makes a big difference

This graph illustrates how water management can impact on your effluent volumes.

Both farms milk 300 cows, but Farm 2's effluent volume is nearly double that of Farm 1. Key reasons are that Farm 2:

- Has no guttering on its roof
- Uses more wash-down water per cow per day (80 l/cow/day instead of 50 l/cow/day)
- Has no stormwater diversion in its yard
- Requires a larger pond than Farm 1 so it collects more rainfall.

Contributors to effluent pond volumes



To irrigate or not to irrigate?

When to irrigate your effluent to land – and when not to – is a question council staff are often asked.



Low application rate sprinklers irrigating to pasture during suitable conditions.



Excessive ponding due to effluent being applied to saturated soils.

If you have both a land application system and resource consent to discharge, your operating procedures must include that you:

- Empty all your ponds prior to winter.
- Divert as much clean stormwater as possible over winter and spring.
- Irrigate to land whenever a window of opportunity arises but only when soils are dry.
- Exercise your discharge consent only if the ponds are full and the application area is too wet.
- Start irrigating again as soon as soils dry out enough.

If you don't have a resource consent to discharge treated effluent to water you need to comply with the rules in Northland's Regional Water and Soil Plan.

Under these rules, no effluent is allowed within 10 metres of a dry drain or 20 metres of any water or waterway.

Irrigating when soils are saturated is essentially a waste of time and money – and you won't comply with rules – as most of the nutrients and bacteria end up contaminating freshwater. Don't irrigate:

- During and/or after periods of wet weather.
- A few days before significant rainfall is forecasted to occur.
- If pasture and soils squelch underfoot (that is, they are water-logged).
- When you are standing cows off to prevent pasture damage to wet paddocks.

- If there is water in the wheel tracks made by the quad or the tractor.
- If effluent from the irrigator ponds excessively on the land surface, or flows overland, at the time of application.
- If water is discharging from sub-surface drains.
- When pasture is not growing.

Effluent should only be applied to actively growing pasture and must be kept in the root zone.

If you get into trouble with full ponds and wet pastures you should give the council a call. We can't authorise you to break the rules but we can help in planning for future wet seasons.

Contact us

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