

VALUE IN EFFLUENT



Efficient and Environmentally Friendly



INFORMATION SUPPLEMENT

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THE BENEFITS OF EFFLUENT

- A well designed system and management plan will enable as much as 80 to 90% retention of the nutrient value.
- The organic matter in the effluent will also improve soil water holding characteristics, aeration and drainage and will make soil less prone to compaction and erosion.
- A maximum application of nitrogen from effluent allowed per year in the Waikato is 150kg per hectare.
- Research shows that 1kg N from effluent is equivalent to 1kg N from Urea, in terms of pasture production, composition and nitrate leaching. Therefore farm dairy effluent can produce good pasture response, up to 10 to 15kg DM per kg N applied in effluent.

Estimated Nutrients in Effluent from 100 Cows (kg/yr)*

No feed pad – farm dairy effluent			
	N	P	K
All grass system (milking 270 days twice a day)	590	70	540
Feeding 2tDM/ha of maize silage in paddock	668	80	668

Using a feed pad – farm dairy effluent plus feed pad effluent (feeding 2tDM/ha of maize silage)			
Time on Pad	N	P	K
½ hour on pad per day	838	100	868
1 hour on pad per day	1008	120	1044

Nutrient	Solid fertiliser equivalent of effluent from 100 cows (all grass system - as above table)
N	1.3 t of Urea
P	0.7 t of superphosphate
K	1.1 t of MoP (50% Potash)
Mg	0.2 t of MgO

Solid fertiliser equivalent of effluent from 100 cows (feeding 2tDM/ha of maize silage on a feed pad, 1 hr per day)	
N	2.2 t of Urea
P	1.3 t of superphosphate
K	2.1 t of MoP (50% potash)
Mg	0.3 t of MgO



Figures are estimated using the Overseer nutrient budget model, figures will vary from farm to farm. Testing the effluent from your farm will confirm the nutrient values. *Source: DairyNZ and Environment Waikato's "A guide to managing Farm Dairy Effluent".



EFFLUENT TRAILER HELPS FARMER BEAT DROUGHT

Many farmers have struggled to keep their cows milking through the drought but one Waikato farmer has come through with his herd producing more milk than in previous years.

Despite the Waikato region's summer rainfall being half the normal fall, Victor Kooter estimates his herd's milk production at Waihou, about 14 kilometres south of Te Aroha, will be four percent ahead of last year.

One "secret", said Victor, is to be able to apply dairy effluent at a low rate with an effluent trailer after grazing to boost grass growth for a longer period.

"It's just a 3 millimetre application from the Giltrap effluent trailer and only takes 10 minutes for a tanker load," said Victor, referring to the 7,500 litre slurry tank with spreader nozzle towed by a tractor to lightly cover half a hectare per load.

As well as more precision, the effluent trailer offers the distinct advantage of reaching any part of the farm plus an adjacent 38ha runoff where maize is grown for silage.

The farm has a travelling irrigator to spread effluent from the dairy yard but it cannot reach beyond available hydrants and during winter the irrigator's use is further restricted to paddocks not too wet underfoot.

Victor and farm assistant Bart van de Ven, two years with the Kooter family and soon to leave for a sharemilking

contract, have used the Giltrap effluent trailer every day since its purchase last November and have so far covered about 60 percent of the farm and runoff.

"When we first came here to work on farms I remember effluent being not so valued as a fertiliser but that's not how it is today," said Victor, 43, who emigrated from Holland with Angelique in 1984.

The couple have worked hard at developing a farm system that is no longer dependent on mild weather conditions for optimum performance and at the same time is efficiently recycling nitrogen as fertiliser.

Among improvements is a large concrete feedpad where a mix of maize silage, brewers grain and palm kernel is quickly and efficiently delivered each day from a nine-cubic metre Giltrap Forage Wagon with controlled side delivery.

The feedpad meal makes up about 40 percent of the cows' total diet, which Victor believes is a good balance with fresh grass because the cows still want to graze and therefore maintain pasture quality.

"One thing we do is make sure we feed the cows properly. If you look after the cows then they will look after you," said Victor, whose split herd produces milk for a winter contract as well as during spring to autumn.

Meanwhile the performance of 'Hazelwood Farm' continues to impress with their 260 big Samen NZ-sired



Friesians averaging 520 kg milksolids per cow, which is at least 50 percent ahead of the district average.

"We like to farm to the best of our abilities which means we spend money to improve the farm, which is why we have a big feedpad, a good 20-aside dairy and plan to build a concrete bunker for the maize silage," said Victor.

He is well aware of the savings made from increased efficiencies and on fertiliser costs estimates a 40 percent saving due to "better utilisation".

As well as the Giltrap effluent trailer and Giltrap Forage Wagon, Victor has invested in a new Giltrap 8-tonne Tip Trailer for safe and easy cartage with dependable strength and stability – and the trailer has an automatic tailgate release.

WHY A GILTRAP EFFLUENT TRAILER?

- Transportable effluent management system – can be used at several locations
- One person operation
- Fast, accurate and efficient
- Better utilisation of tractors
- Low maintenance required on effluent trailers
- Approximate fill time for a 10,000 litre tank is 4-5min
- Approximate discharge time for a 10,000 litre tank is 5min

(Times may vary slightly due to viscosity of effluent and depth of pond)

Application Rates Based on a 10 metre Pass

Litres/ load	7500		10,000		12,000	
	Metres/ pass	Loads/ Hectare	Metres/ pass	Loads/ Hectare	Metres/ pass	Loads/ Hectare
3mm	250	4	333	3	400	2.5
4mm	187	5	250	4	300	3
6mm	125	8	167	6	200	5



GILTRAP MAKES IT EASY

A Giltrap Engineering effluent trailer that meters out 150,000 litres a day of treated meatworks effluent on to cropping land is showing how nitrogen can be recycled reliably and at low cost.

Tulloch Transport Southland Rural Manager Bob Marshall, whose company is contracted to Alliance Group to dispose of surface sludge from effluent ponds at the Matura meatworks, said the sludge is a valuable source of nitrogen and keenly sought after by stockfeed crop growers.

In return for the low-cost fertiliser, the growers are obliged to keep paddocks available for the spreader that visits any paddock only once each year.

“The growers require resource consents and we have worked closely with Environment Southland to make sure the effluent trailer is dispersing the sludge within consent limits equivalent to 150 kg of nitrogen per hectare each year,” said Mr Marshall.

Application trials for the load, which is 90 percent water, demonstrated that Giltrap’s M10000 effluent trailer will reliably apply less than 4mm of slurry in each 10 metre wide run when towed at the right speed.

“The sludge falls to the ground a lot more evenly and for the given area of each paddock the operator will know exactly how much to put in, which is usually less than the consented limit,” said Mr Marshall.

He said the Giltrap effluent trailer replaced a far less accurate spreader almost two years ago and has proven more reliable, easier to operate and more efficient.

“The operators have been told to run it in a specific gear and to make sure they are not overlapping the rows,” said Mr Marshall.

“During the peak (December to May) our two operators will work shifts to cover 14 hours a day with just the one spreader and there’s not been a single breakdown,” said Mr Marshall.



Tulloch Transport Southland Rural Manager Bob Marshall relies on a Giltrap effluent trailer to operate six days a week for accurate spreading rates within Environment Southland consent limits.

He said Giltrap’s 10,000 litre effluent trailer will disperse 15 loads a day and when it’s time to refill, the operator uses remote controls to load the sludge from a 22,000 litre tanker that is towed between the meatworks and farms.

“It takes only 3 or 4 minutes to refill, and about 30 minutes for three runs that will empty the tanker. There’s a huge time saving with the bigger load capacity and quicker and more accurate dispersal,” said Mr Marshall, whose previous system required extra operators who would cover 20 hours a day.

“We had shopped around for the right spreader and bought the best,” he said.

Giltrap Engineering Ltd marketing manager Eric Crosby said the huge amount of work being done by the M10000 for Tulloch Transport was evidence of its reliability.

He said Giltrap’s knowledge of demanding farm conditions, particularly in Australia where Giltrap has a sales base in Melbourne, has added to their design and engineering of effluent trailers “well ahead in their class”.

“Our use of top quality European components makes these spreaders hard-working and hard-wearing to reliably handle slurry loads day in and day out,” said Mr Crosby.

The Giltrap slurry tanks are manufactured from 5 to 6mm plate steel with 6mm domed ends and an independent

chassis constructed from grade 350 high tensile RHS steel.

All tanks are individually pressure tested well above their recommended working pressure to guarantee build quality and safety in the field.

The tank is mounted to the chassis with flexible rubber connections to minimise stresses that can transfer to the tank during transport around a farm.

Battioni Pagani vacuum pumps are the efficient rotary-vane type that only require low maintenance, the sectioned suction hoses are lightweight for easy handling and fittings are brass or galvanised for corrosion protection.

Giltrap effluent trailers come in a range of capacities from 5,000 to 15,000 litres to suit all farm sizes and there are wheel and tyre options to suit local conditions and reduce the possibility of ground damage.

Other options include inverted and side nozzles for more accurate spreading, a rain gun which enables spreading up to 40m away, a simple auto-fill system and a range of brake options.

Mr Crosby said that the investment in a Giltrap effluent trailer, as shown at Matura, pays for itself in terms of fertiliser cost savings and in meeting the compliance standards set by regional environment authorities.

CONTACT US NOW TO SECURE YOUR ORDER!

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