



# Direct Application Effluent System

**Name:** Vicki and Tony Greig  
**Location:** Buffalo, South Gippsland  
**Dairy Shed:** 10 Swingover Herringbone  
**Milking Area:** 65ha  
**Herd Size:** 110 Cows  
**Land Type:** Undulating Dryland

Buffalo dairy farmers Vicki and Tony Greig manage the effluent from their 110 cow herd using what is literally a two *pond* effluent system.

Comprising of a 500 gallon concrete water trough and a 200 gallon concrete water trough, the small scale effluent system was designed and built by Tony for less than \$8,000. Although it is relatively labor intensive (the top pond must be shoveled out four times a year), the system meets Environmental Protection Authority requirements.

More importantly however, its extremely low cost has enabled Vicki and Tony to continue milking, something they wouldn't have done if they'd been obliged to build a larger system.

*“We only plan on milking for another four or five years, and we don't have kids to pass the farm onto,” explains Vicki.*

*“We probably would have gotten out early rather than make that type of investment.”*



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Tony and Vicki built the system a year ago. Previously, they applied their effluent and washdown water directly onto a sloping paddock beneath the dairy, but there were concerns that run-off could make its way into a nearby creek.

The system applies the same principles used in the two dam effluent systems seen on many larger dairy farms. The effluent and wash down water flows from the dairy and yards into a drop pit, then passes through a two metre length of 100mm PVC pipe into the first pond. The solids component settles to the bottom of the pond, allowing the liquid to flow through a short length of PVC piping into the second pond, which is sited directly below.

The liquid is then pumped, via 100 metres of 50mm poly piping and flexi hose, to a relatively flat 4ha paddock nearby, where it is irrigated using a manure sprinkler.



case study



The remaining solids are spread out over other paddocks.

Advantages of the system are its cost (the 3 horsepower mains powered pump used for irrigation, which was \$5,500, was the most expensive component of the system) and ease of construction (it took Tony just two days to build).

Disadvantages of the system include that there is no capacity for storing the nutrient-rich liquid. This means that Vicki and Tony must irrigate after each milking, regardless of weather conditions or fertiliser requirements. Further, they are not able to recycle the water for washdown, for which they currently use fresh water.



## System Analysis

<b>Benefits</b>	<ul style="list-style-type: none"> <li>■ Cheap, easy to install and operate</li> <li>■ Can be managed to keep dairy effluent on farm</li> <li>■ Able to keep dairying for extra 4-5 years</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>■ Labour intensive</li> <li>■ Must pump small amounts of effluent every day, no matter what the weather</li> <li>■ Can't recycle for yard wash</li> </ul>
<b>Costs</b>	<ul style="list-style-type: none"> <li>■ \$5,500 for 3HP electric pump</li> <li>■ \$400 for 500 gallon trough</li> <li>■ \$250 for 200 gallon trough</li> <li>■ \$800 sprinkler</li> <li>■ Flexihose: \$10 per metre</li> <li>■ 50mm polypiping: \$2 per metre</li> </ul>

## Helpful Hints For Any Effluent System

Benefits	Costs
<ul style="list-style-type: none"> <li>■ Correct application of effluent will boost pasture production</li> <li>■ Possible cost savings through reduced need for fertiliser</li> <li>■ Effluent can be an excellent soil conditioner (a source of organic carbon)</li> <li>■ Containing nutrients and sediment on-farm reduces contamination of waterways</li> <li>■ Reduced spread of animal and human disease (by eliminating waterway contamination of the harmful bacteria in effluent)</li> </ul> <p><i>This table is from DairySAT.</i></p>	<ul style="list-style-type: none"> <li>■ Initially it will cost time and money to install a new system or improve your current one</li> <li>■ May not have the ability to achieve best practice due to property layout and terrain</li> <li>■ Young stock (up to a year old) cannot graze or have access to areas where effluent has been applied</li> <li>■ Milking cows cannot graze paddocks where effluent is applied for a recommended three weeks after application</li> </ul>
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