

# YARD WASH SYSTEMS

## STANDARD 1 IN THE CODE OF PRACTICE FOR DAIRY FARM EFFLUENT WA: WATER USE EFFICIENCY

Yard wash water usually represents a significant proportion of the water use in a dairy. Traditionally there are three main methods of yard wash: hand-held hoses, hydrants, and flood wash. There are also new backing gate wash systems being adopted. Each type of yard wash has its own advantages and disadvantages, and the best option will vary with yard size, yard design and the management required.

**Hose wash** – Suits smaller dairies where the yard area is small. Only a modest pump and a hose with high-volume, low-pressure fittings are required. Water use can vary depending on the operator. This method can be time consuming and have high water use in larger yards. Not recommended for recycled effluent due to aerosol risk to staff.

**Hydrant wash** – Uses permanent hydrants placed strategically around the yard and suited to larger yards. It requires a bigger pump and flow rates can be extremely high. Timers can be fitted to pumps to control water use.

**Flood wash** – Uses a large dump of water to wash the yard through risers in the floor or through large, targeted outlets at the top of the yards. Volumes of water are fixed to the volume of the tank. This system is preferred when using recycled effluent. The sump or trafficable trap must be able to handle the large volume of water. Yard design is a factor with flood wash and it can be difficult to retrofit a perfect system.

**Automated backing gate wash system** – Uses a combination of scrape and wash in the movement of the backing gate across the yard. This system saves time and water. It is best suited to circular yards and works best when the yard is even and has a relatively smooth concrete pattern.

Other measures like pre-wetting and a dry scrape before yard wash makes all these systems work better. Training and reminding all staff of the importance of conserving water in the dairy is important to reducing the volume of effluent that will need to be managed.

Table 1 shows the relative performance of the various yard wash systems. Management and yard design influence ratings and this table is a guide only.

**Table 1** Ratings for yard wash system performance

Yard wash	Low capital cost	Time saving (labour)	Water use saving	Maintenance	Suitability for yard wash recycling
Hose	★★★★	★★	★★	★★★★	★
Hydrant	★★★	★★★★	★★★	★★★★	★★
Flood wash	★★★	★★★★★	★★★	★★★★	★★★★★
Automated backing gate wash	★★★	★★★★★	★★★★	★★★	★★★★



Department of Water and Environmental Regulation  
Department of Primary Industries and Regional Development



*This project is a part of Healthy Estuaries WA – a State Government Royalties for Regions program that aims to improve the health of our South West estuaries.*

## CASE STUDY: HOUDEN FAMILY, REDMOND WA

Herd Size: 450–550 cows

Farm Size: 240ha

Shed type: 25-stand swing over

### System details

The milking platform and pit are hose-washed with fresh water and the circular main holding yard uses a recently installed automated backing gate wash system which is the commercially available Dungbuster®. Previously the yards were washed using a hose which was very time consuming and used large volumes of water. The Dungbuster® uses a combination of water and dry scrape on the backing gate to wash the yard. The gate and wash are driven by the pump.



### What's working well?

According to the farm owner, the Dungbuster® has many benefits including saving time, water and assisting cow flow. Water use is estimated to have been reduced by 30 per cent compared to the hose method used previously. The previous hose wash would take a staff member 45 minutes to an hour each milking to wash the yard. Now this process is completely automated during milking, so staff are free to do other jobs around the farm. The automatic gate also helps with cow flow as the sound of the wash is enough to keep them on the move to the parlour.

*"We're saving at least a third of the water we used previously. We're happy and think it's been a really good investment."*

**MAL HOUDEN**



Pump-driven gate drive.



This recommended management practice/technology meets Standard 1 in the **Code of Practice for Dairy Farm Effluent Management WA: Water Use Efficiency**.

### Further information

Automated wash is ranked as a potentially viable management practice in WA. This feasibility ranking is based on best available knowledge and considers ease of management, cost, availability, maintenance, integration and likelihood of success (Price & Tait 2019).

Visit [westerndairy.com.au](http://westerndairy.com.au) to view a list of all viable management practices and technologies in WA.

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