



Best Practice Recycling Water

Sheet 51.0a

Recycling Water

Why change?

Many farmers have made significant reductions in their water costs, both in the supply and disposal of wastewater by recycling some of the water that occurs on the farm. Identifying the water quality needed for all operations and recycling water to meet the needs of different end uses:

- reduces costs
- protects supplies from overuse
- may enable expansion of operations.



Steps to Success

1. **Review** your current situation, identifying all the uses of water on the farm such as stock drinking, washing, and irrigation, and then estimate the quality, e.g., mains, and quantities needed for each purpose.

2. **Identify** potential opportunities by ascertaining if there is water of a quality that could be recycled for other purposes, for example:

- irrigation run-off
- cooling water
- rainwater
- vegetable washings
- clean yard run-off.

Avoid unnecessary contamination of water supplies in supply, storage or after initial use by avoiding back siphoning, and protecting ground and surface water sources during farm operations. Consider if the development of your business is restricted by the lack or cost of water and decide if recycled water would make expansion possible. Identify if any treatment such as settlement or slow sand filtration is necessary before reuse becomes feasible.

3. **Calculate** the cost-benefit of these opportunities by establishing the costs of recycling water such as collection, transfer and treatment. Compare costs with the potential savings such as reduced use of mains quality water (approximately £1.91/m³ South West Water), a reduction in wastewater disposal costs (low-rate irrigation £1.50/m³), and reduced energy and labour costs. Identify the payback period. NB, please note cost/ m³ will vary depending on your water company.

4. **Implement** an action plan taking care to raise awareness of water costs with staff and ensure regular checks for any leakage in the delivery system. Introduce the improvements that are most cost-effective and help protect water resources and the wider environment.

NB, a dripping tap or overflow can waste as much as 4 to 90 litres a day costing £2.78 - £62.74 year (£1.91/m³ South West Water, 2020).

5. **Monitor** progress with the recycling of water supplies to ensure that benefits associated with costs, crop yields and quality are realised.



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Recycling Water- practical examples

Using your roof water

Are there uses such as yard/equipment washing or stock drinking for which roof water could replace mains water? If so, what volume of water storage, e.g., tank/reservoir, exists in m³ (220 galls)? What area (m²) of roof could be diverted to storage? What is the average rainfall for the area (m)?

Roof area (m ²)	x	Average rainfall (m)	x	Saving in mains water (@ £1.91/m ³)	=	Potential savings (£ per annum)
<input type="text"/>	x	<input type="text"/>	x	<input type="text" value="1.91"/>	=	<input type="text"/>

This is your potential gross annual saving. This does not take account of evaporation from the roof, which may be 10% - 25%, the capacity of your filter or the cost of storage. Since the cost and solutions are site-specific, it is essential when calculating cost-effectiveness to use your actual estimates.

NB, mains water cost approximately 1.91p/m³ South West Water, 2020. Please note cost/m³ will vary depending on your water company.



Dairy farm cooling water

A farm recycles the water used for cooling 225,000 litres of milk produced each year.

Instead of discarding the warm water from the plate cooler as it leaves the heat exchanger, it is collected and reused to clean the milking parlour.

In winter, this warm water is given to the cows to drink instead, thereby saving on additional storage, handling and mains costs.



Remember

- Water is a valuable commodity and is likely to become increasingly scarce and costly - the less that is wasted the more you will benefit.
- Changes in management such as abstractions may require licence variations so consult the Environment Agency (EA).
- Some water companies provide free advice to business customers.
- **For further information please contact:**
The Rivers Trust: www.theriverstrust.org/who-we-are/find-your-local-trust
Environment Agency: www.gov.uk/government/organisations/environment-agency
Catchment Sensitive Farming: agricultural-water-pollution
www.gov.uk/guidance/catchment-sensitive-farming-reduce-agricultural-water-pollution



The Rivers Trust



This information sheet is part of a series produced by Westcountry Rivers Trust providing farmers with advice on land management practices to protect water bodies. The advice enables farmers to use farm resources more efficiently, helping to meet Nitrate Vulnerable Zone, Cross Compliance, Farming Rules for Water and other regulations while protecting our environment and natural resources.

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