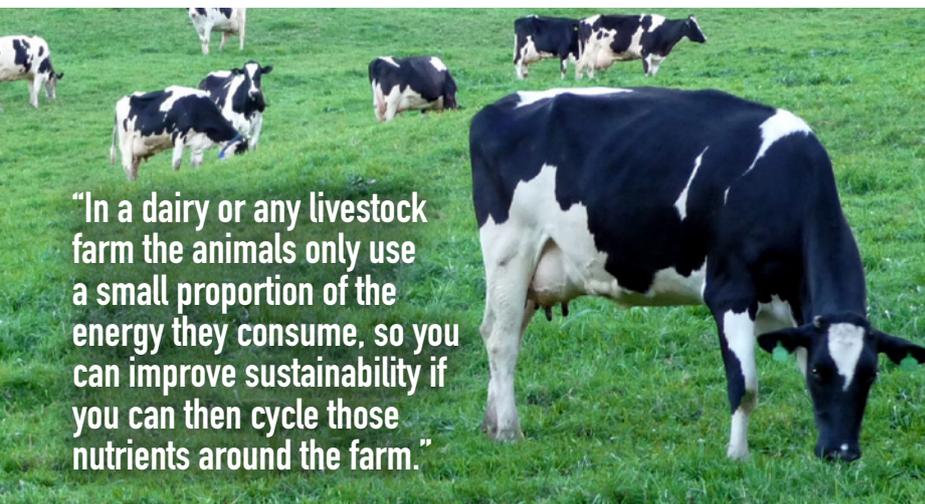


EFFLUENT RE-USE ON DAIRY FARMS



“In a dairy or any livestock farm the animals only use a small proportion of the energy they consume, so you can improve sustainability if you can then cycle those nutrients around the farm.”

BACKGROUND

Animal manures and urine are rich in nitrogen, Animal effluent is rich in nitrogen, phosphorous, potassium and organic carbon.

These fertiliser nutrients account for significant expenditure in most farm budgets. Normal farming practices result in much of this nutrient accumulating in areas that do not grow grass, running off in surface water or building up in and around treatment systems and then being lost in runoff or dumped inefficiently into parts of the property that are easily accessible.

With dairy farms having significant greenhouse gas emissions, together with rising energy and fertiliser costs, effective effluent reuse can both reduce energy and fertiliser costs as well as cut down on emissions of greenhouse gasses.

In a carbon constrained economy these issues are likely to become more important in future.



CLEARING THE CARBON CONFUSION FIELD DAY

WHAT	Farmer workshop
WHERE	Lemon Grove Research Farm Jamberoo, NSW
WHEN	March 2012
SPEAKER	Stephen Wiedemann Agricultural Scientist

KEY POINTS

- Manure management is all about system efficiency with regards to nutrient content, carbon levels and energy.
- System efficiency is an important focus, both from an economic and biological point of view, meaning win- win scenarios can be achieved.
- With increasing intensification of dairy farms, the challenge of manure management is increasing. However, if effluent is viewed as a resource, our vision and actions on its efficient reuse can be changed.
- Agriculture is facing changing times and increasing commitment to biodiversity and catchment scale river restoration and water quality is at the forefront of this change.
- Every kg of manure N managed effectively (i.e. replacing urea) may save 2-4 kg CO₂-e.
- Manure may be utilised for green energy production (anaerobic digestion), although this is not yet economically viable for the majority of dairy farms.
- In the same way we use cow manure to fertilise our garden, livestock effluent can be used to replenish paddocks that are depleted from grazing or foraging.

STRATEGIES FOR EFFLUENT REUSE AND NUTRIENT MANAGEMENT

EFFECTIVE NUTRIENT MANAGEMENT IS ABOUT TRACKING NUTRIENT FLOWS AND RESTORING THE BALANCE BETWEEN INPUTS AND OUTPUTS, E.G.

- Treating nutrient depletion areas (such as hay/silage/ grain paddocks) with nutrients deposited and collected in accumulation areas (feed pads and effluent ponds)
- Capturing nutrient and carbon inputs in purchased feed through high feed conversion nutritional strategies and efficient effluent capture and storage.
- Appropriate manure and effluent application (liquid fertiliser).
- Effective cycling and minimising losses from the farm:
 - o Targeted fertiliser applications – soil test and understand where the nutrients are needed.
 - o Day/night paddock rotation

BIOGAS FROM MANURE

- Process involves capturing the gas generated from liquid effluent treatment (effluent ponds).
- Naturally occurring without any assistance.
- Compared to other industries, dairies have fewer opportunities because of scale / biogas yield.

WHY RE-USE EFFLUENT?

- Clarity of cost/benefit – not always easy to see, but plenty of examples where fertiliser inputs have been greatly reduced, resulting in savings of \$5,000– \$10,000 / yr.
- Opportunities exist for practice change and innovation that haven't been explored yet. Farmers are well placed to do this in ways that suit their own farm scenario.

THIS EVENT WAS SUPPORTED BY AUSTRALIAN GOVERNMENT'S CARING FOR OUR COUNTRY AND REGIONAL LANDCARE FACILITATOR INITIATIVES



MORE INFORMATION

Dairy NSW
dairynsw.com.au

Dairy Australia
www.dairyaustralia.com.au/Animals-feed-and-environment/Environment/Soils-nutrients-and-effluent.aspx



Catchment Management Authority
Southern Rivers

