



Caring for the Environment

KEY POINTS

- The Australian feedlot industry considers that the protection of the environment is vital for ecologically and economically sustainable production.
- There is a direct correlation between beef production efficiency and environmental benefits. Accordingly, there is an incentive for lot feeders to improve both. Given beef feedlot production is more efficient than extensive grass fed cattle production; more beef can be produced with less land, water, manure, feed and emissions.
- The industry has developed a strong environment track record from the proactive development, compliance and improvement of the industry's quality assurance program, the National Feedlot Accreditation Scheme (NFAS) - the quality assurance program for Australian feedlots.
- The Australian feedlot industry invests in research, development and extension programs to ensure lot feeders have access to the latest science and information to foster and encourage the adoption of world leading environmental practices and the promotion of continuous improvement over time.
- The Australian feedlot industry encourages lot feeders to undertake both formal and informal training in environmental matters through accredited vocational education courses and industry led workshops.

BACKGROUND

What is the situation?

Because of the intensive nature of cattle feedlot production, the environment needs to be managed carefully so that there are no impacts on ground and surface water, soil, flora/ fauna or local communities. However, the intensive nature of cattle feedlot production also provides clear environmental benefits due to efficiency advantages (e.g. less emissions, water, feed, manure and land) and greater potential for future environmental improvements due to control over inputs and outputs. For example, ration inputs can be altered to reduce emissions (e.g. use of grape marc) whilst outputs like manure can be collected, composted and sold as a valuable soil conditioner. Manure can also be used to sequester carbon or produce energy. Such an opportunity is not available in the pasture based cattle production system. Any runoff from yards is collected in ponds and used to irrigate crops or minimise dust.

From an emissions perspective, superior nutrition means feedlot cattle compared to grass fed cattle, emit significantly less greenhouse gases per kilogram of beef produced. Given feedlot cattle reach market weights quicker, they also produce fewer emissions over their lifetime. In point of fact, feedlot cattle produce 38% less emissions per kg of beef produced compared to grass fed cattle whilst control over production inputs and outputs provides more potential to reduce emissions further. This research is supported by international studies. In fact US research has concluded that it takes 226 less days for grain-finished cattle to reach market weight than grass-finished cattle, meaning that each pound of grain-finished beef requires; 45% less land, 76% less water, 49% less feed, while generating 51% less manure; and 42% fewer carbon emissions. Such advantages are a key reason why the total Australian beef industry has reduced its emissions by 14% and water use by 65% over the 30 years from 1981-2010.

NFAS, the quality assurance program for the feedlot sector, has allowed the industry to establish a strong reputation for good environmental management such that it is now recognised in several states' environmental legislation.

Why is it an issue?

The key environmental issues, their likelihood and management actions undertaken by lot feeders are as follows;

Issues	Likelihood	Background
Effluent ponds overflowing during floods	Low	Feedlots must be built above 1 in 100 year flood levels, and effluent ponds must sustain at least a 1 in 20 year rainfall event.
Build up of minerals (eg nitrogen and potassium) in soils or water due to manure or effluent application to land.	Low	Feedlot manure and effluent are an excellent soil conditioner and alternative to inorganic fertilizer. They are applied to surrounding cropping land as well as sold to market gardeners, nurseries and other farmers (and hence is a valuable asset to lot feeders). Environmental licenses require feedlots to monitor mineral levels and submit soil and water samples to

		state environmental regulators at least once per year.
Odour, dust or noise complaints.	Low	Improvements in the digestibility of cattle diets and compost management have greatly reduced feedlot odours over time. Dust is minimised through use of water whilst buffer distances mean noise complaints are very rare.

How is the industry managing the environment?

The feedlot industry utilises a number of tools to manage the environment;

1. The National Feedlot Accreditation Scheme (NFAS)

The key tool that the industry utilises to manage environmental matters is NFAS. NFAS was the first quality assurance scheme introduced in Australia agriculture. It is independently owned and managed to industry with accredited feedlots also independently audited on an annual basis to ensure compliance with its standards along with environment, animal welfare, and food safety legislation.

The core environmental requirements within NFAS are set out in the National Beef Cattle Feedlot Environmental Code of Practice. This document details the national environmental standards for the establishment and operation of feedlots. It is more stringent and encompassing than legislation and lot feeders are annually audited against it via NFAS. The document has been formally approved by state and federal Government agencies and Ministers.

NFAS has been recognised in various states as meeting the compliance function of Government. NFAS requirements are continually updated as developments in legislation, technology, best management practice and science occur. This ensures that the industry meets the expectations of consumers, customers, markets, Government and the wider community. Notably, not only is strong environmental management a requirement under NFAS and legislation, it is also a key tenet of the industry's prestigious Feedlot of the Year competition.

2. Environmental legislation

Whilst feedlots like all businesses, must adhere to State environment, waste and planning legislation; NFAS ensures this occurs through annual independent audits of feedlots. Environmental legislation imposes management and licensing requirements (e.g. annual soil and water testing and reporting) along with offence provisions to prevent water, air and noise pollution. Waste legislation provides a framework for managing wastes from waste avoidance, to re-use, recycling, and energy recovery, through to waste disposal. Planning legislation stipulates the planning conditions to minimize the development's impact upon the environment and surrounding community. As a result of NFAS and legislation, feedlots have an excellent environmental record.

3. Research and development

ALFA makes decisions on industry levy investment into research and development (R&D) programs that seek to reduce emissions and energy usage, reuse/ recycle carbon and improve lot feeder knowledge and skills. Meat & Livestock Australia (MLA) is responsible for the management of industry research and development projects.

4. Extension and education

The industry via its peak body, the Australian Lot Feeders' Association, has developed feedlot specific environmental training to improve lot feeder skills and management practices. The training was developed in conjunction with the Queensland Government and was delivered via face to face workshops throughout Australia.

ALFA workshops are a primary tool to communicate with lot feeders regarding the outcomes of recent R&D projects and best practice guidelines. Other communication mechanisms include fortnightly newsletters, bi-monthly journal articles, regular emails and social media.

The industry also utilises environmental consultants to provide expertise surrounding feedlot design, operation and management. Such consultants also undertake research and development on behalf of the sector regarding emissions reduction fund methodology development, life cycle emission analysis and decreasing energy and emissions at feedlot sites.

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