



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



Lincoln University

Te Whare Wānaka o Aoraki

CHRISTCHURCH • NEW ZEALAND



Presented at NZARES Conference 2013: On-Farm Impacts of Environmental Policy.
Lincoln University, Lincoln, New Zealand

New Zealand's specialist land-based university

What food should we eat? Local, safe or environmentally sustainable food.



Case Study of Waitrose supermarket's Welsh and New Zealand seasonal agri-food supply chain

by Nic J. Lees

New Zealand's specialist land-based university

Background Issues

- How do consumers define product quality and value
- Does food security mean food self sufficiency?
- What is the best way to pursue climate change mitigation in agriculture?
- Should localisation of food and avoiding food miles be used for food purchase decisions?
- What does this mean for New Zealand agri-food exports to Europe

Food Quality

- Search
- Experience
- Credence

Introduction

- The New Zealand economy is still highly dependent of agri-food exports
- Despite growing importance of Asia, Europe is still important for some products.
- Europe still takes 56% of New Zealand lamb

Introduction

New Zealand has a strong competitive advantage in the export of high quality meat and dairy products.

Due To:

- **Favourable climate** that enables an **efficient, seasonal, pasture based** production system
- **Low population** (large food surplus and clean environment)
- **Geographic isolation** (high animal health status)

New Zealand's specialist land-based university

Introduction

- However, New Zealand is **vulnerable** to changes in **government policy** and **consumer demand** in importing countries
- Especially with the growing interest in **localised food systems** and national concerns about **food security**.

Challenges for NZ

- **Environmental Footprint** - Worlds longest export supply chains (18,000 km).
- **EU Common Agricultural Policy** seeks to increase food security and support rural economies

Issues

- New Zealand must address the European Union concerns of **food security** and the **welfare of local producers**.

Issues

- New Zealand must also address issues regarding **environmental sustainability** and especially **Greenhouse Gas Emissions** perceived to be associated with imported food.

Issues

- In addition New Zealand exports must meet European Union consumers demand's for a **consistent supply of high quality, safe food** at a **competitive price**

Issues

- New Zealand must meet these **consumer demands** within the constraints of a **pasture based** agricultural production systems. This requires the development **long term cooperative** supply chain partnerships

Issues

- Agribusiness supply chains tend to exhibit **short term opportunistic behaviour**.

Problem Statement

- How can New Zealand ensure a **consistent year round supply of high quality, safe food** and addresses issues of **animal welfare, environmental stewardship** and **local farmer economic and social welfare**.

Research Questions

1. How can New Zealand deliver a **consistent year round supply** of **high quality, safe food**.
2. How can New Zealand exports addresses these issues of **animal welfare**, **environmental stewardship** and **farmer economic and social welfare**.

Case Study

- This paper looks at the case study of Waitrose supermarket's **Welsh** and **New Zealand** seasonal agri-food supply chain for **fresh chilled lamb**.

Case Study

- Waitrose are able to ensure that their customers have a **twelve-month supply of quality lamb** meeting the highest standards of **animal welfare** and **environmental sustainability**.
- Waitrose support the **livelihood of their farmer suppliers** through **premium prices** and **improvements in farm productivity**.
- This is achieved in the **highly competitive** United Kingdom supermarket environment and this strategy provides Waitrose with a **sustainable competitive advantage**.

Research project

- Analyse the supply chains of the **high value NZ meat exporters** and the **relationships** with their **retailers** in the European Union.
- Identify the ways that **supply chain participants** address **consumer** and **society needs** through **long term, collaborative** supply chain **partnerships**.

Methodology

- An initial exploratory study using semi structured interviews with key wholesaler/retailer personnel in the European market to develop an understanding of the supply chains and the key factors in the supply chain relationships

Best in Season – Best for the Environment

- As well as providing a **high quality product** this policy also minimises the **impact on the environment**.
- The lower feed conversion rate of **ruminant animals** such as sheep mean that when fed on feed supplements their emissions per kilogram are higher than monogastric animals such as **pigs** and **poultry**.
- However, ruminant production in **extensive grazing systems** on land unsuitable for crop cultivation helps reduce emissions (Garnett, 2009).

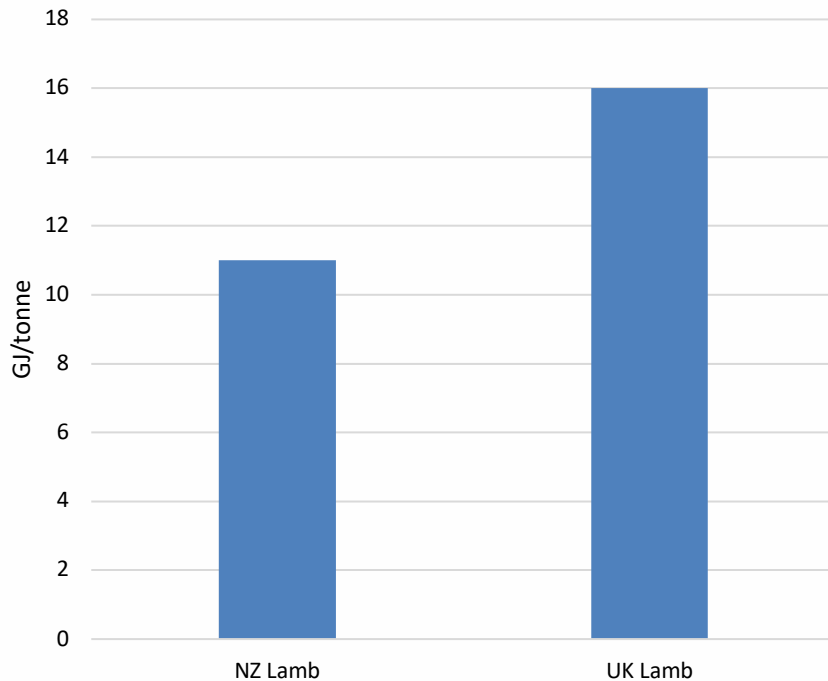
Best in Season – Best for the Environment



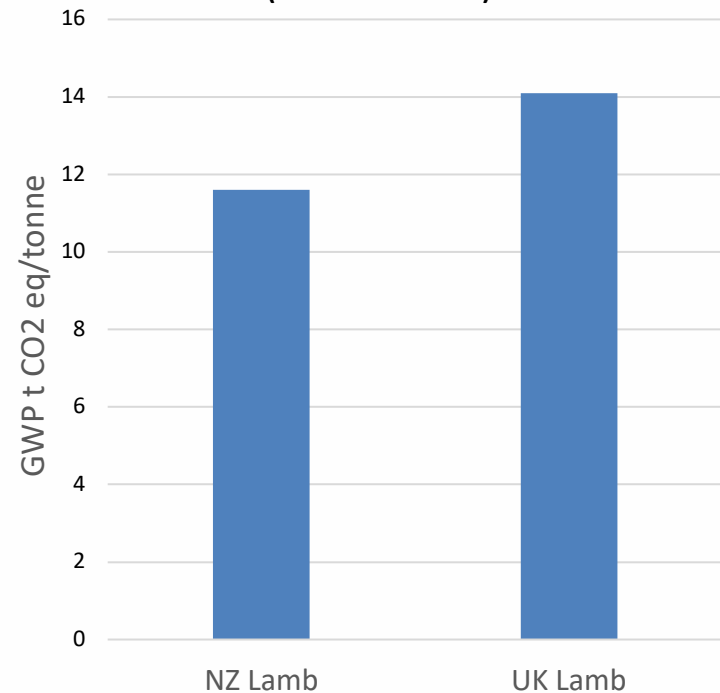
- The extensive pasture based lamb production systems in New Zealand have been shown to have **lower carbon emission** even when long distance sea transport is taken into account (Saunders & Barber, 2008).

Best in Season – Best for the Environment

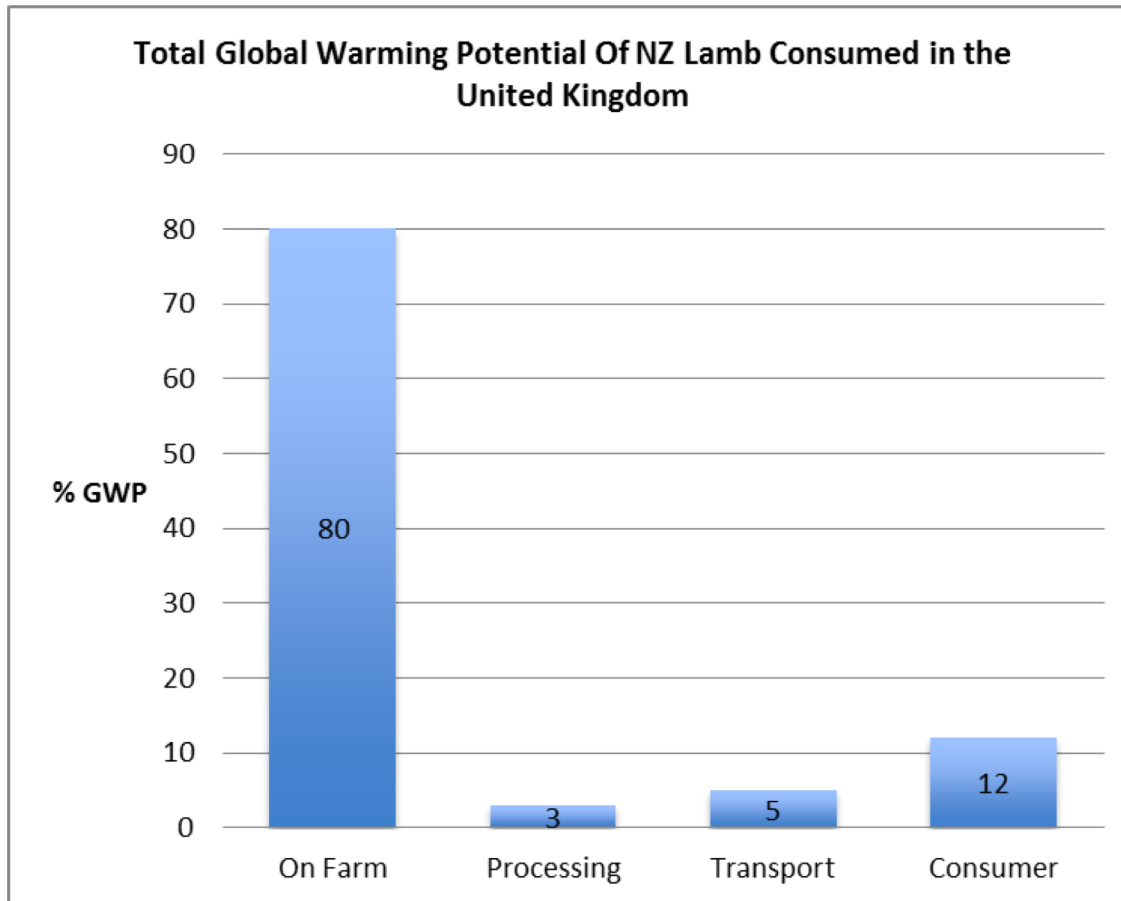
Total Energy Input
Lamb Consumed In United Kingdom
(Saunders, Barber, and Taylor 2006)



Global Warming Potential
Lamb consumed in United Kingdom
(Webb et al. 2013)



Reason



- Largest contribution to greenhouse gases occurs behind the farm gate (methane)
- Feed conversion to meat has highest impact on methane/kg meat

Reduce on Farm Emissions

- Greater amounts of fertiliser applied to UK pastures
- Faster growth rates of NZ systems
- Lower use of feeding supplements
- Indoor lambing systems in UK with straw bedding

Consumer

Carbon Footprint - Consumer



- Consumer can make a big difference on the carbon footprint
- Driving 2.5 km to buy 500 gms meat adds 1 t CO₂ eq/tonne (additional 10% to carbon footprint)

Requires Supply Chain partnerships

- **Relationships:** “The key to developing the relationship would be the operational people, its all about people, they have got a very good team, we have got a very good relationship with them and communication”.
- **Trust:** “**We have absolute trust in Waitrose**, I believe they have absolute trust in us, they would always from a commercial point of view would want to know they are being treated fairly, but they put a lot of trust in us”.
- **Interdependence:** “We have got to work to make **Waitrose very successful**, they have a huge **impact on our business** so we have a huge responsibility to make sure that Waitrose are treated fairly on a commercial basis.

What makes the system work?

- **Reciprocity:** “The relationship with Dalehead is very much a transparent one. We have a margin aspiration. We work closely with them and that’s where some of the flexibility there allows us to do another promotion”.
- “So we work together and take a bit from either party”.



Results

- **Market share growth** - Despite the recession this year has been a record-breaking period for Waitrose, posting its highest ever share of 4.7% (Grocery News 2012) . UK's fastest growing supermarket last year.
- **Oversell in meat category** - Waitrose has only a 5 % market share but has nearly 10% market share of lamb sales
- **Trusted brand** - When Avian Influenza came 3-4 years ago sales of chicken went down everywhere except for Waitrose where it went up. Sales have lifted 11% during the horsemeat scandal.
- **Shared benefits** – All supply chain participants benefit from farmer to consumers. Other stakeholders benefit through improved environmental and economic performance

The Future

- Increased collaboration between NZ and UK farmers can improve the efficiency and sustainability of UK lamb production.

MAXIMISING RETURNS THROUGH REDUCING METHANE EMISSIONS - AN OPPORTUNITY FOR THE UK SHEEP SECTOR

Compared to 1990, the New Zealand flock produces slightly more meat from 43% fewer ewes due to increases in the number of lambs reared and average carcass weight. This has led to a 17% reduction in the carbon footprint of their lamb. Similar gains could be achieved here.

5
Dec
2012

Arguments in support of sheep production are needed to counter those who use climate change as a to turn consumers against the consumption of red meat. These include - most of the land farmed for sheep is unsuitable for other forms of food production; alternative sources of protein which are considered to produce less GHGs often use cereals and grassland stores carbon.

Thank you



New Zealand's specialist land-based university