



Massey University

Dairy Farming in New Zealand: Animal Husbandry and Zoonoses



Richard Laven
Dairy Group Leader
Institute Veterinary, Animal and
Biomedical Sciences
Massey University

Background: New Zealand dairy farming

Backbone of economy

- **Largest export earner**
20.5% (NZ\$8.1 billion) of total merchandise exports,
(Statistics NZ, 2010)
- **Year 2012 growth forecast**
NZ\$ 11.9 billion (Dairy NZ, 2009).

Background: New Zealand dairy farming

- **Pasture dependent**

Seasonal food supply

Match calving so lactation matches pasture supply

- **Seasonal breeding**

Once a year calving

Milk solids *not* volume

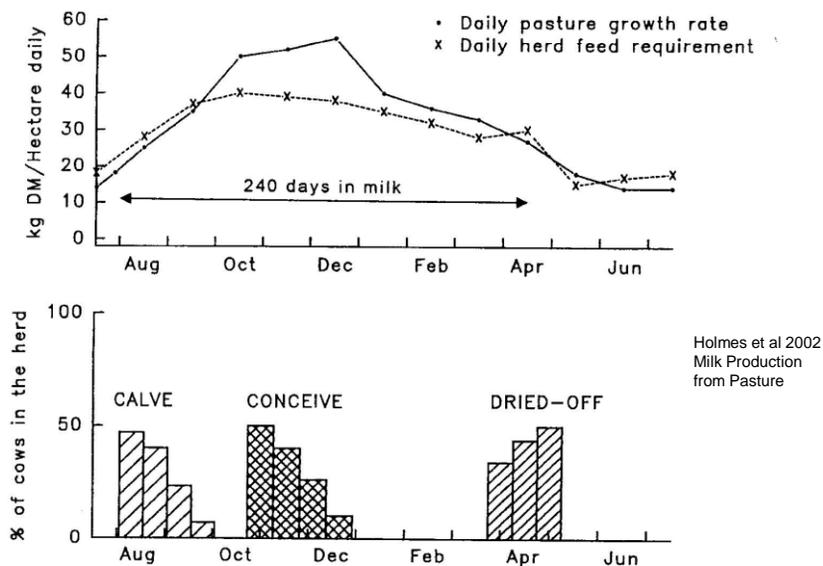
Small amount of autumn calving for liquid milk market

Dairying in New Zealand

Dairying In New Zealand

	2005-06	2006-07	2007-08	2008-09
Herds	11,883	11,630	11,436	11,618
Cows (million)	3.83	3.91	4.01	4.25
Average herd size	322	337	351	366
Industry production (million kg/MS)	1,267	1,316	1,270	1,393
Herd production (kg/MS)	106,660	113,182	111,033	119,966

The system



Five farm production systems

- Based on use of imported feed
- **System 1 – All grass self contained, all stock on the dairy platform**
- **System 2 – Feed imported (4-14%), either supplement or grazing-off, for dry cows**
- **System 3 – Feed imported (10-20%) to extend lactation (typically autumn feed) and for dry cows**
- **System 4 – Feed imported (20-30%) and used at both ends of lactation and for dry cows**
- **System 5 – Imported feed used all year, throughout lactation and for dry cows**

Spring to Autumn



Maximise grass production and grass intake

Cows harvest grass

Grass growth and milk price determines farm type

But once-a-day milking may change this further

Best breed for pasture not best for housed

Feed pad use



Typical feeds:

Maize / grass silage

Molasses

Palm Kernel Extract

Winter



Options:

1. Grazing
2. Grazing off
3. Fodder crops



Irrigation



The major change in NZ dairying
 Canterbury + Southland – 50% of cows

More housing



Limited restrictions / controls

Welfare

Environmental impact – storage of slurry etc.

The calf



Limited use of housing

Multi-suckling

High prevalence scour

Low prevalence pneumonia

The dairy heifer



The key zoonoses

- TB
- Leptospira
- Salmonella
- Cryptosporidia
- E. coli
- Giardia
- Yersiniosis
- ?Johnes



Impact of husbandry

- Pasture-based system reduces much disease spread
- Endemic disease load is low
- But large herd size increases risk
- Proximity of farms also concern
- Systems are not designed to reduce disease spread
 - Multi-suckling
 - Pooled colostrum

Zoonotic impact of dairy farming

- Vaccination – Leptosure
- TB eradication programme
 - Pasteurisation
 - Increase in 'raw milk' sales
- Limited human / animal contact

BUT

Active control on-farm is very limited

Legislative controls limited

Changes may increase risk



Massey University

The end

Any questions?