

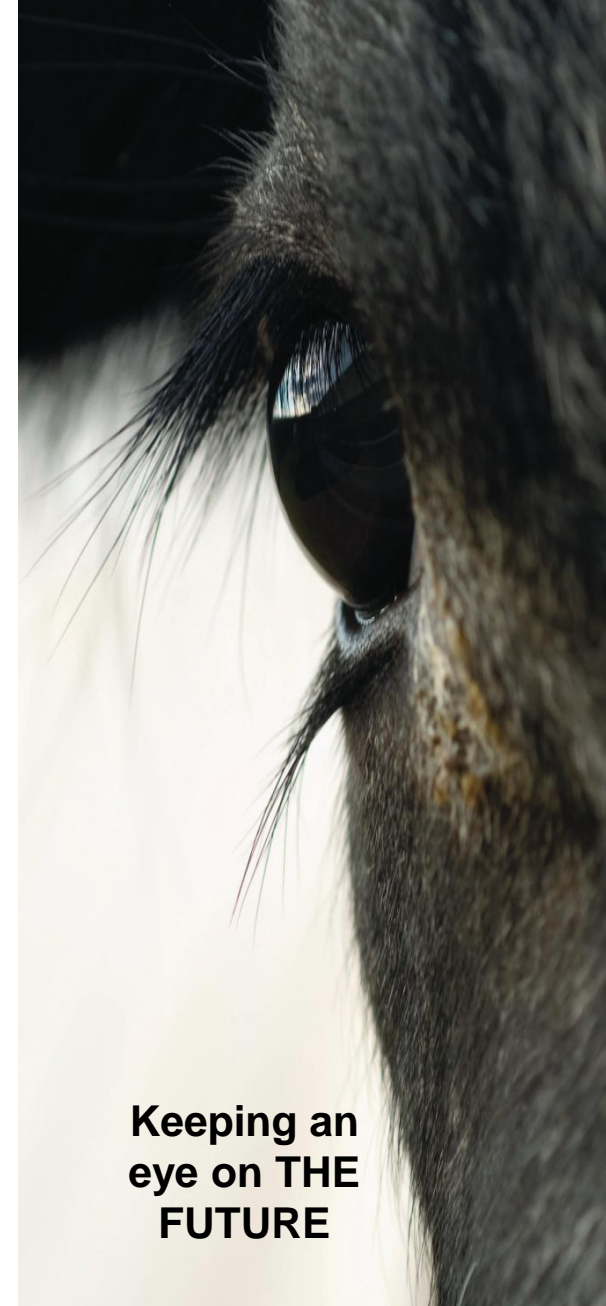


New Zealand dairy industry: A dynamic and changing industry, based on the management of large scale dairy herds and efficient milk production from pasture

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eye on THE
FUTURE**





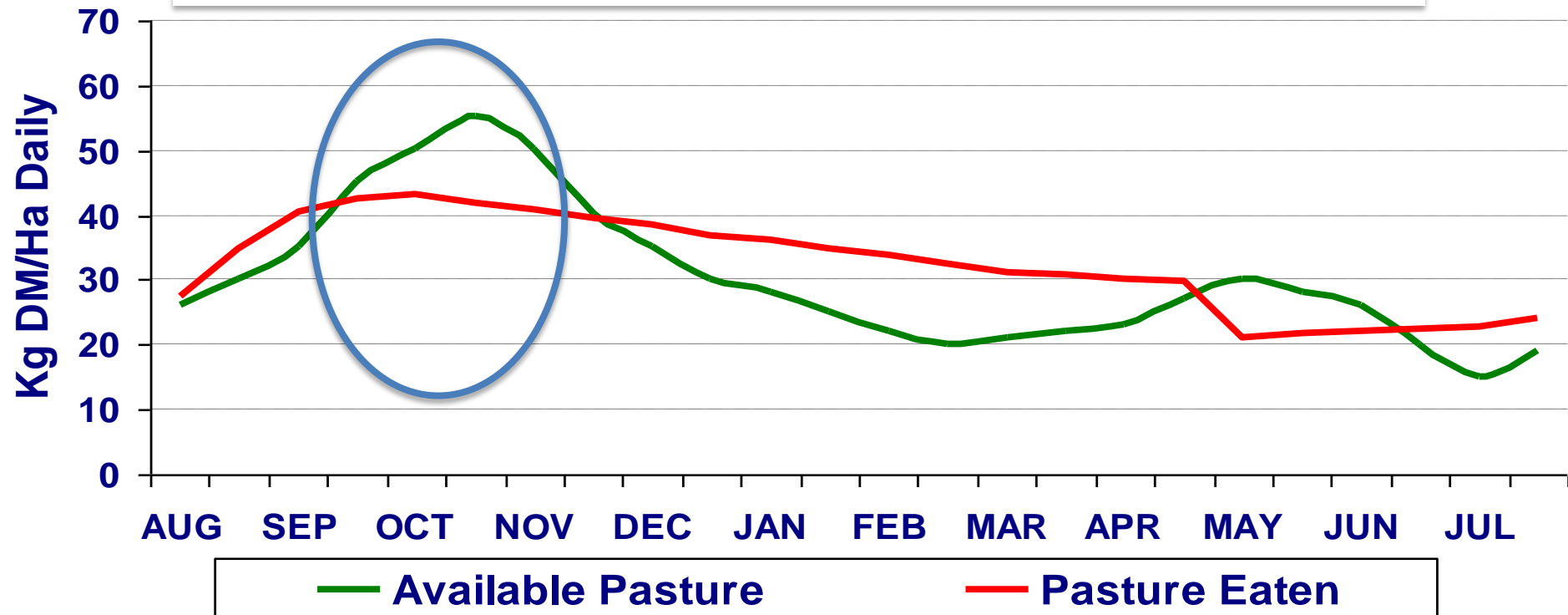
NZ dairy industry

- National herd increasing, 4.9 million dairy cows (LIC/DairyNZ stats, 2013/14)
- Increasing genetic merit (BW & PW) = 13.5 annum (NZ dairy stats 2014)
- 45% of herds have over 500 to over 1,000 cows
- Work in kg milk solids (kg fat + protein) and is high fat (5 to 5.5 %)
- **Land used for** dairy expanding, greater climatic challenges, system type and feeds used
- **Nitrogen** losses 'run off' and (Dairy: 48 v beef and sheep: 8 kg N/year) council consent permits
- **Housing** replacing 'stand off' and being applied more generally (North and South Island)

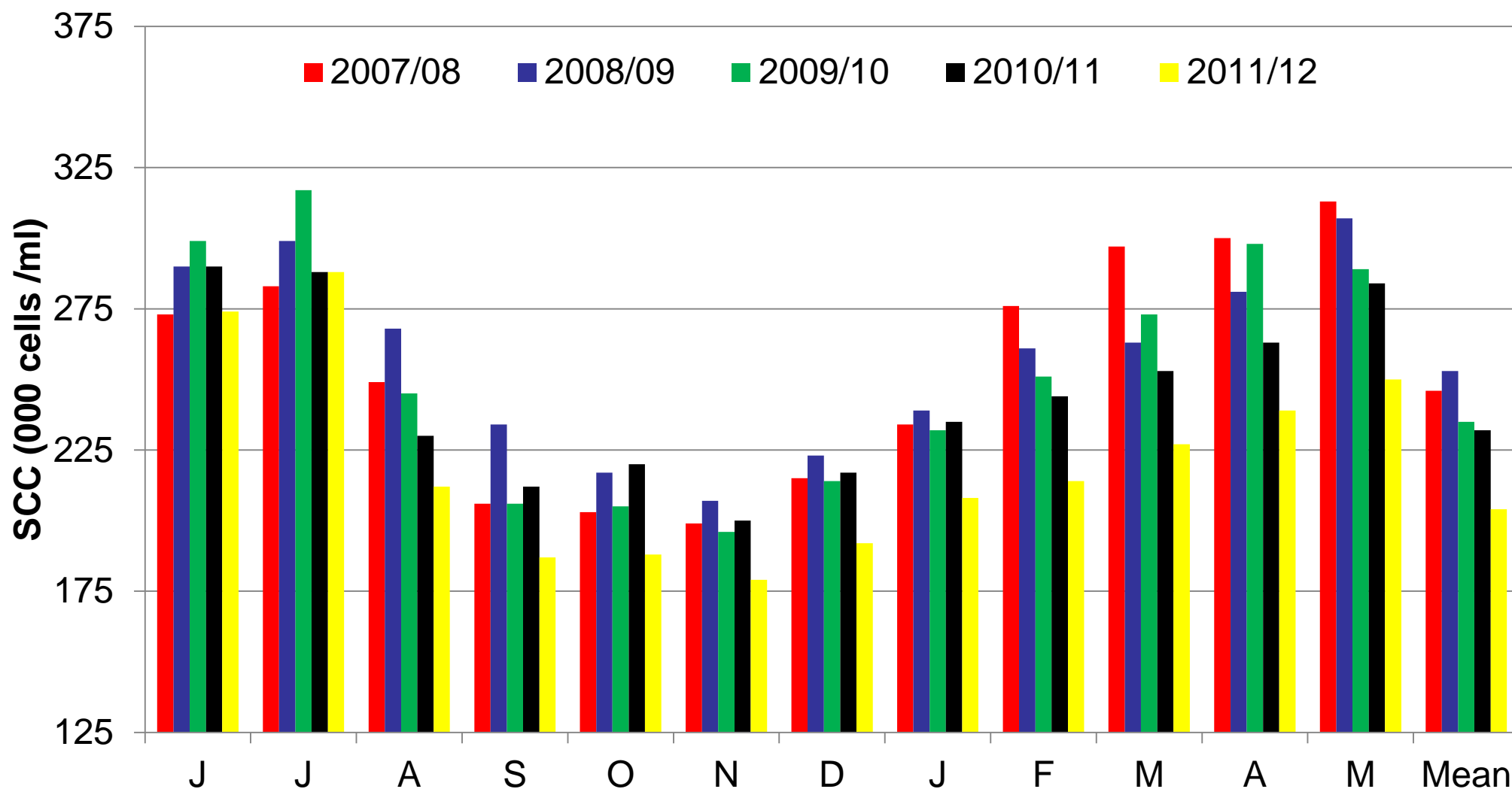


Annual calving

- Historically NZ based on fertility and seasonality
- - Changing and moving





Annual mastitis and SCC pattern



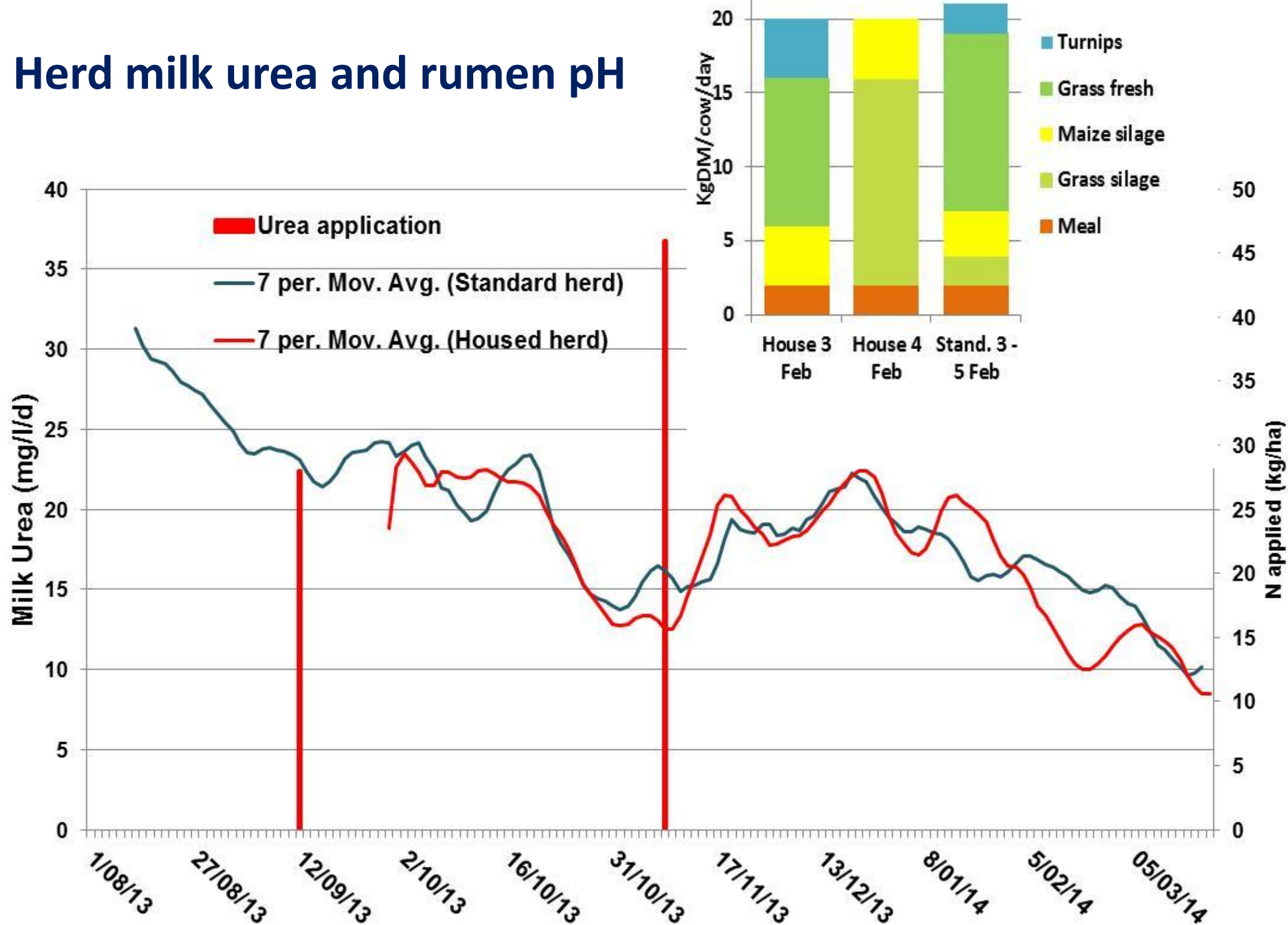
Higher when cows are in early and late lactation



Environment: N leaching (48 v 8 kg)

Limiting factors		Solution
Winter/Spring wet soils Nitrate leaching, P and faecal runoff		Pasture harvesting can be increased and environmental footprint lowered by improved standoff facilities and grazing rules that avoid soil damage and leaching.
Summer /Autumn drought		Home grown feed supply and quality Larger area Extended grazing period of summer grown turnips More drought tolerant grasses

Herd milk urea and rumen pH



Feed quality

Spoiled silage at feed-out

Put out and feed – clean-up

Clean out – prevent



- **North Island traditionally dairy, with more clement conditions**
- **Conversion of beef and sheep into dairy, especially on south island:**
- **Greatest increase in dairy in South**





Increased climatic and environmental (N) challenge: Low cost pole barn with plastic roof



Colder weather on South Island, fully slatted floors



Cantilever divisions, matts, no bedding



Cantilever and sand beds



Free stall barn, new regulations due late 2015

- Diet mixer wagons
- Robots for feed sweeping
- Automated scrapping, cow brushing and milking
- Approx. 1 person / 200 cows
- Poor silage quality and understanding of housing COWS





Bed surface do make a difference: Water beds

Adoption study - testing beds for cow acceptance



Canvas-covered foam



Modified Sand



Rubber Wing-flex

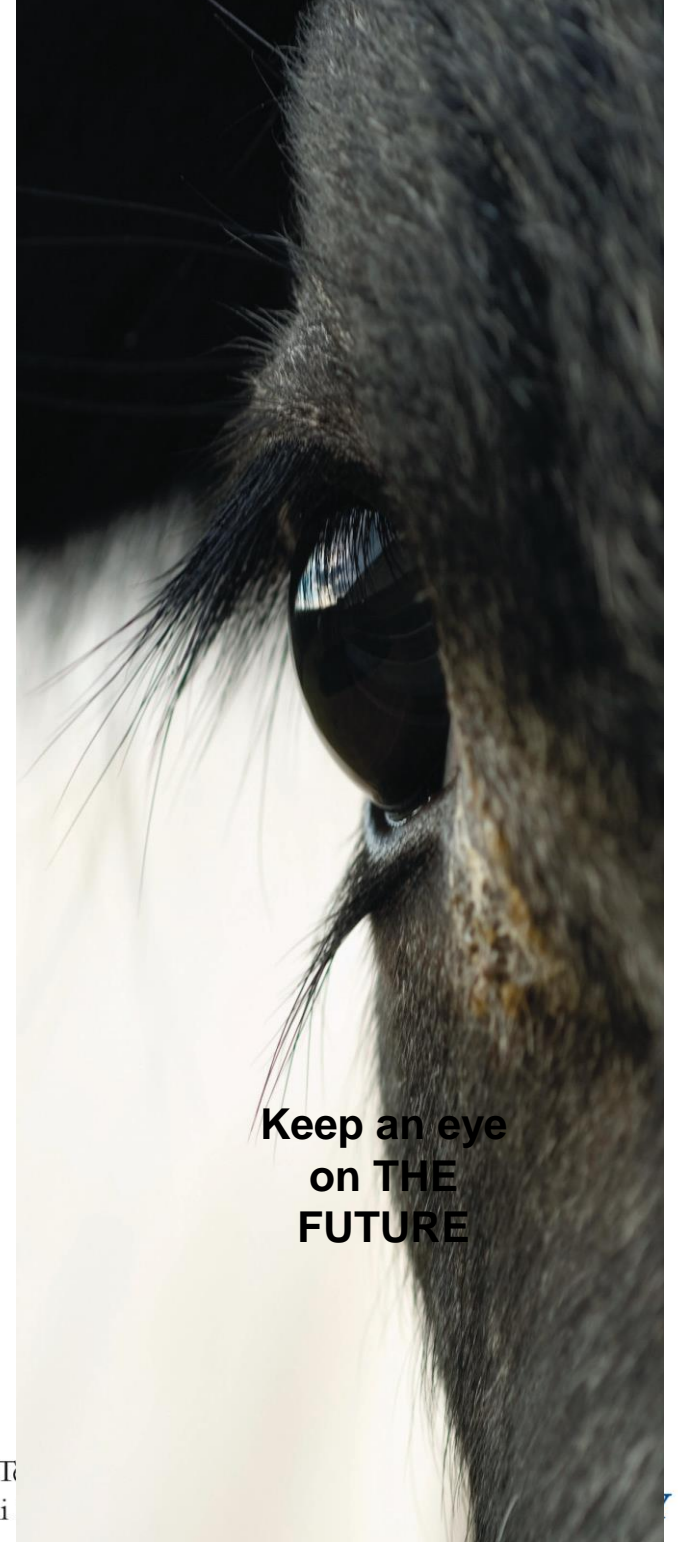


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Heifers

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Survival & replacement (%)

Year	2	3	4	5	6	7	8
2006/07	85.0	87.5	87.6	84.2	79.7	76.7	70.6
2007/08	84.8	87.8	88.2	84.7	79.5	74.9	71.2
2008/09	84.0	87.6	87.2	84.1	80.0	74.9	69.5
2009/10	86.8	87.7	87.5	83.4	80.2	76.1	70.7
2010/11	87.0	87.2	86.3	82.2	77.6	72.9	67.3
2011/12	86.2 (14)	87.2 (13.0)	86.0	81.1	76.8	71.2	65.7

LIC recorded herds 2010/2011 season





Weight by age and breed

	Holstein-Friesian		Jersey		Holstein-Friesian X Jersey	
Age	(kg)	cows	(kg)	cows	(kg)	cows
2	397	194,511	317	66,612	371	244,165
3	481	166,399	367	60,118	428	199,394
4	515	138,738	382	51,013	451	152,614
5	520	126,665	406	47,263	468	132,605
6	533	99,144	409	36,273	478	98,832
7	526	76,863	420	30,031	480	79,439
8	533	61,636	425	22,400	486	59,090
9	531	46,625	425	16,149	493	41,953
10+	531	50,617	416	20,637	489	47,906
Total	491		383		440	

LIC recorded herds 2012/2013 season





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Weight by age and breed

	Holstein-Friesian		Jersey		Holstein-Friesian X Jersey	
Age	(kg)	cows	(kg)	cows	(kg)	cows
2	75%	194,511	75%	66,612	66%	244,165
3	481	166,399	367	60,118	428	199,394
4	515	138,738	382	51,013	451	152,614
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**73 % of heifers
first calve below
85 to 90% Mature
weight**

LIC recorded herds 2012/2013 season





- 73 % of dairy heifers calve below target 85% mature weight
- Mean herd life 4.5 years, but
 - Substantial proportion of cows 10 + years of age
 - 23 % of cows leaving the herd at 2 to 3 years of age
- Culling:
 - Infertility – 10 to 20%, annual, seasonal calving
 - Mastitis – annual seasonal calving
 - Lameness – in 12 % of cows, but poorly recorded and recognised
 - Other, poor selection and breeding for improvement





- Mastitis
 - In shed/parlour monitoring of SSC, mastitis and milk composition
- Feeding/diet
 - Feed intake, cow temp and activity
 - Rumen pH and rumination
- Transition management and diet
 - Reduced pasture / grass silage use
- Calf rearing,
 - Colostrum and calf health and growth rate
 - Heifer nutrition





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Thank you for your attention

Any questions?



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