



BEEF
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FORUM

Economic analysis of Australia's Maternal Productivity Project

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THE UNIVERSITY
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ANIMAL WELFARE - MEETING CONSUMER NEEDS AND INCREASING PRODUCTIVITY.

Joint conference between Aust.
and NZ Soc. of Animal Production

Adelaide 4-7 July 2016

asap.asn.au

Research herd component

4 Lines
High Fat
Low Fat
High NFI
Low NFI

X

2 Nutrition
High
Low

X

2 Sites
Vasse, WA
Struan, SA

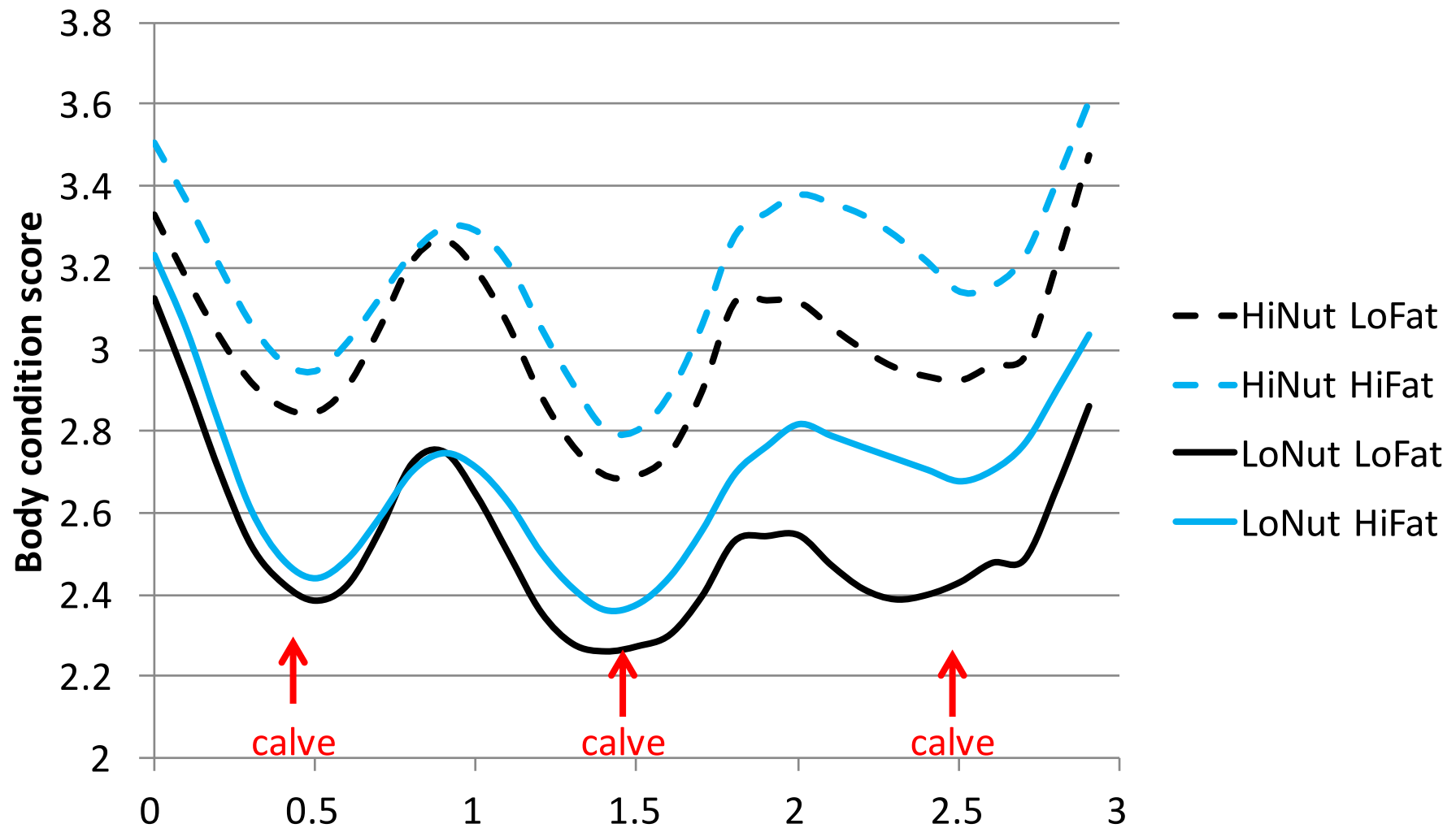
>25 cows in each subclass split into 2-5 replicates



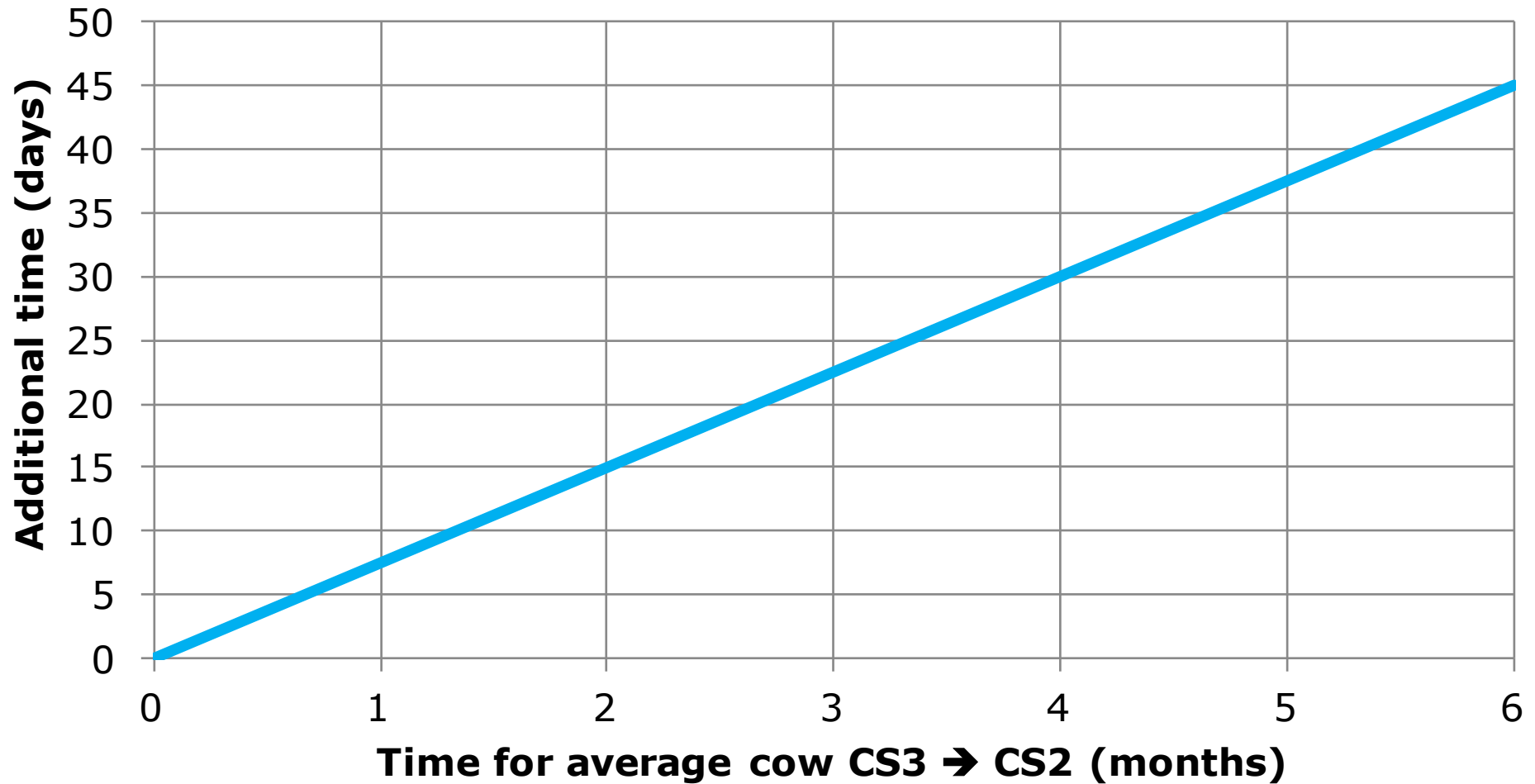
EBV differences between lines

EBV	High Fat	Low Fat
Rib Fat (mm)	1.1	-1.4
P8 fat (mm)	1.3	-1.5
200d Wt (kg)	36	41
MILK (kg)	11	11
Mat Cow Wt (kg)	77	91
DTC (days)	-3.2	-1.9

Variation in condition



Effect of extra 1mm Rib EBV on feeding

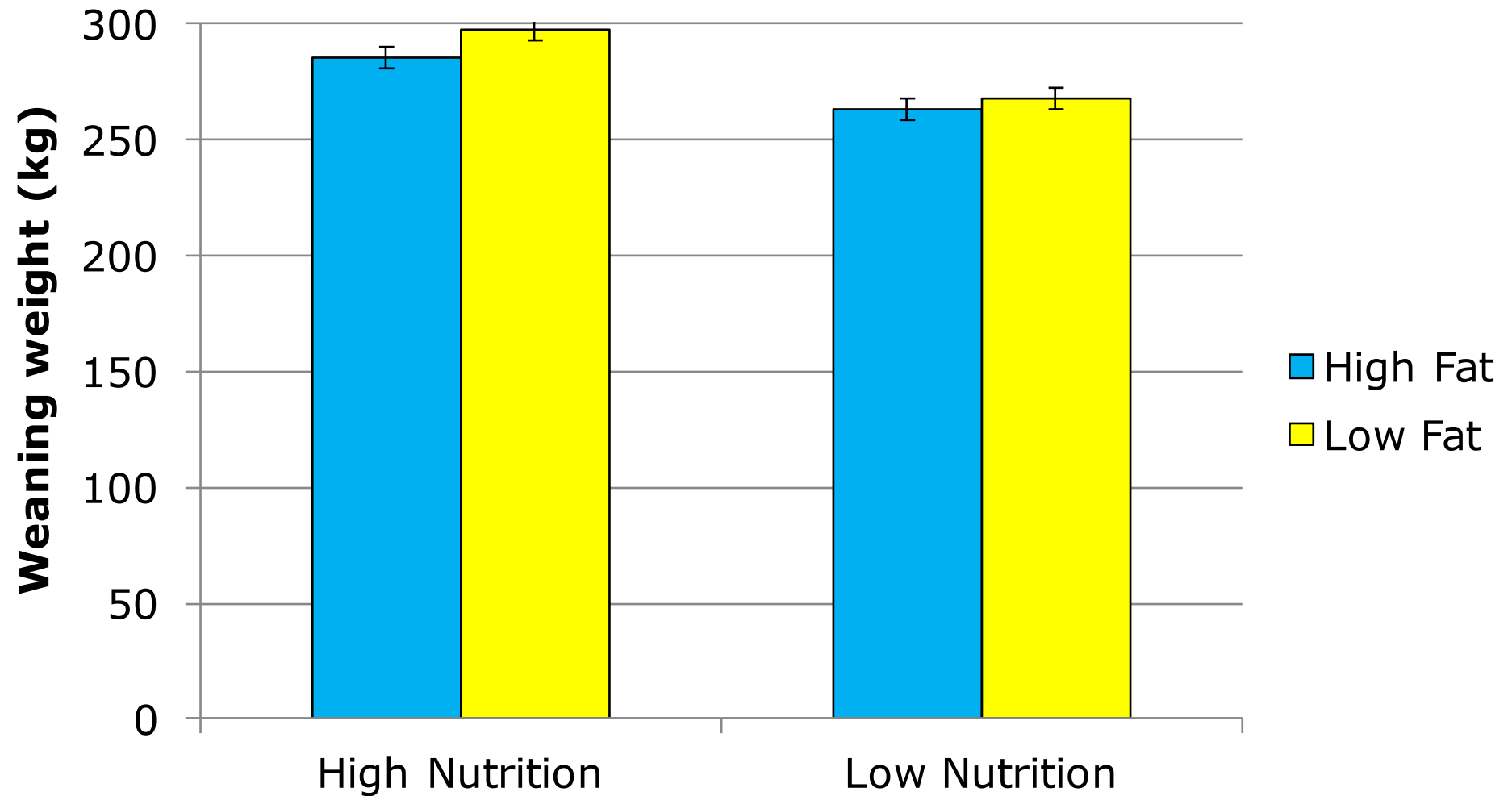


Group data

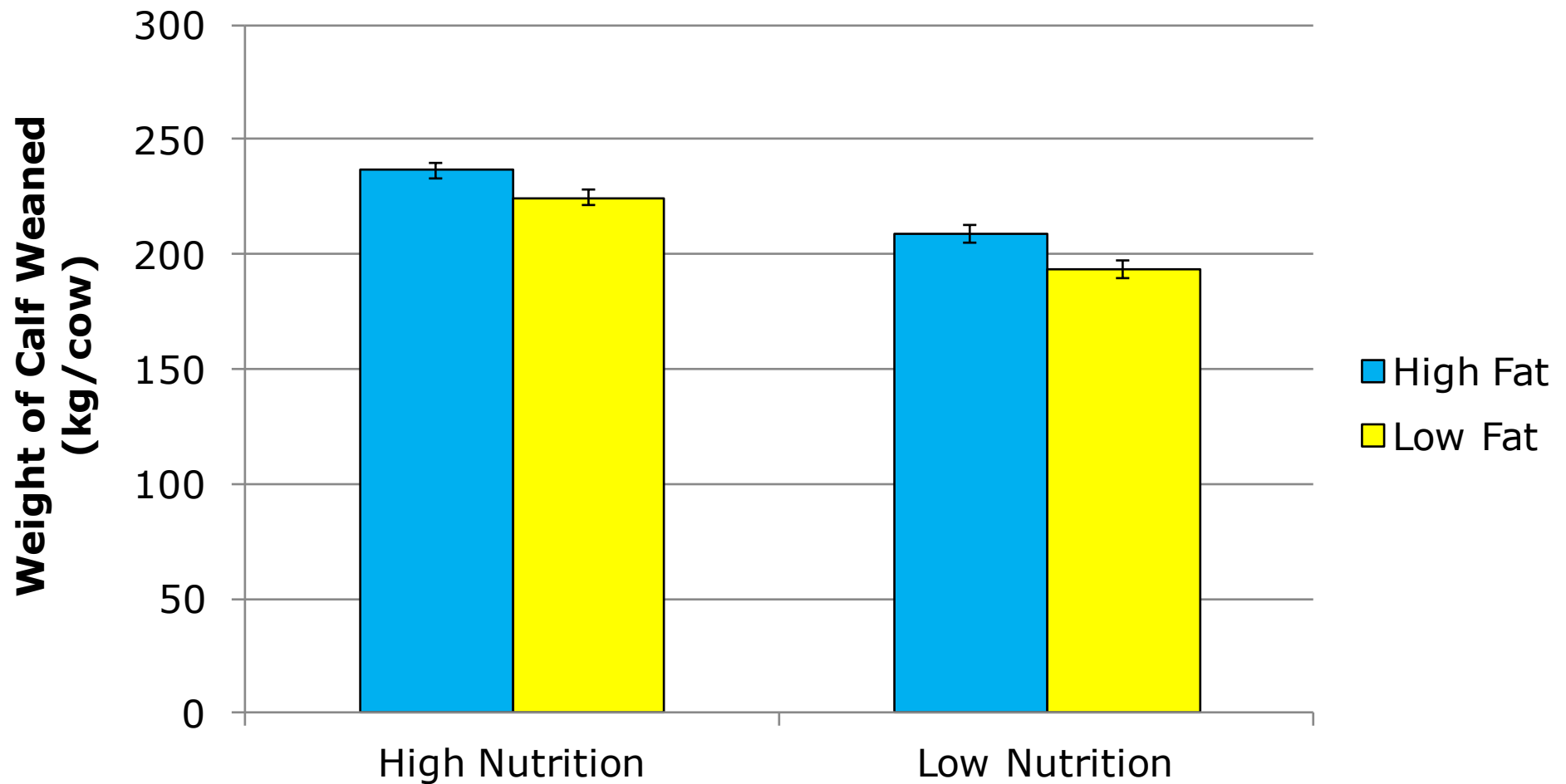
- 64 groups x 3 calvings
- Includes dry cows
 - Average 84% weaning rate
 - No difference between Hi & Lo nutrition
- Cows calve over time so lactation length adjustment also
 - Average 207 days lactation length
- Cow gain on an annual basis
- Actual feed intake for the group



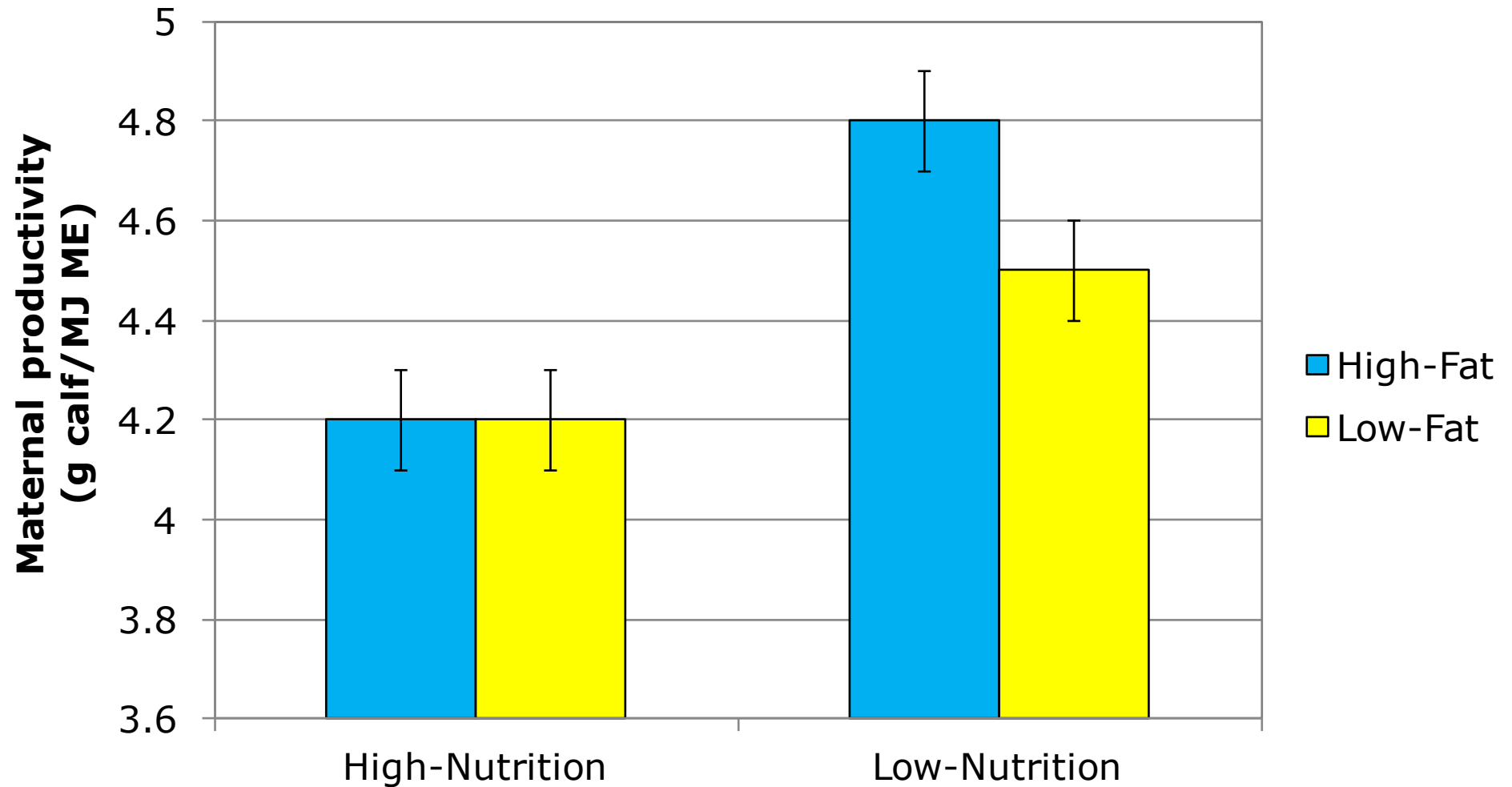
Calf weaning weight from mature cows



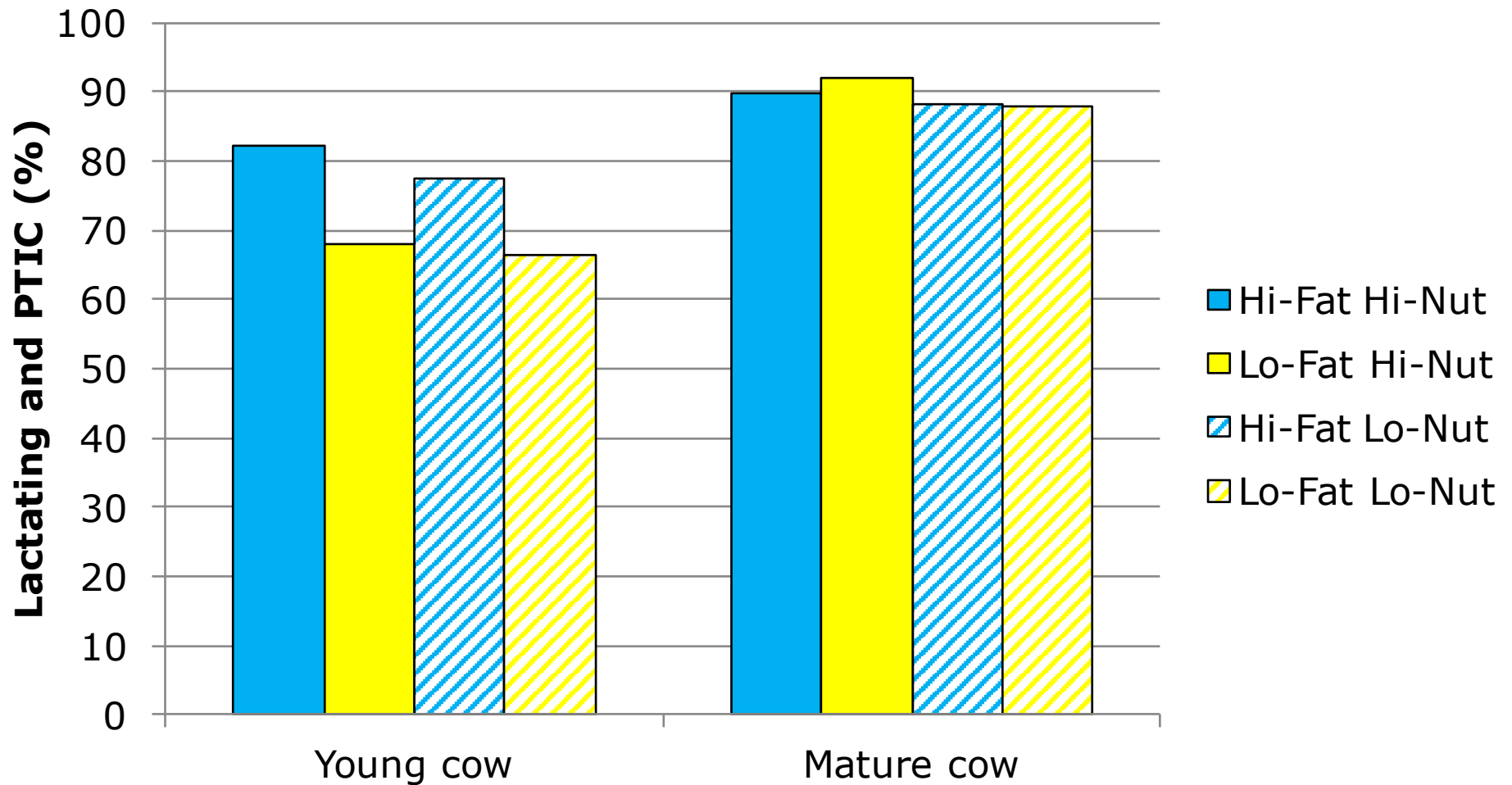
Weight of calf weaned



Maternal productivity



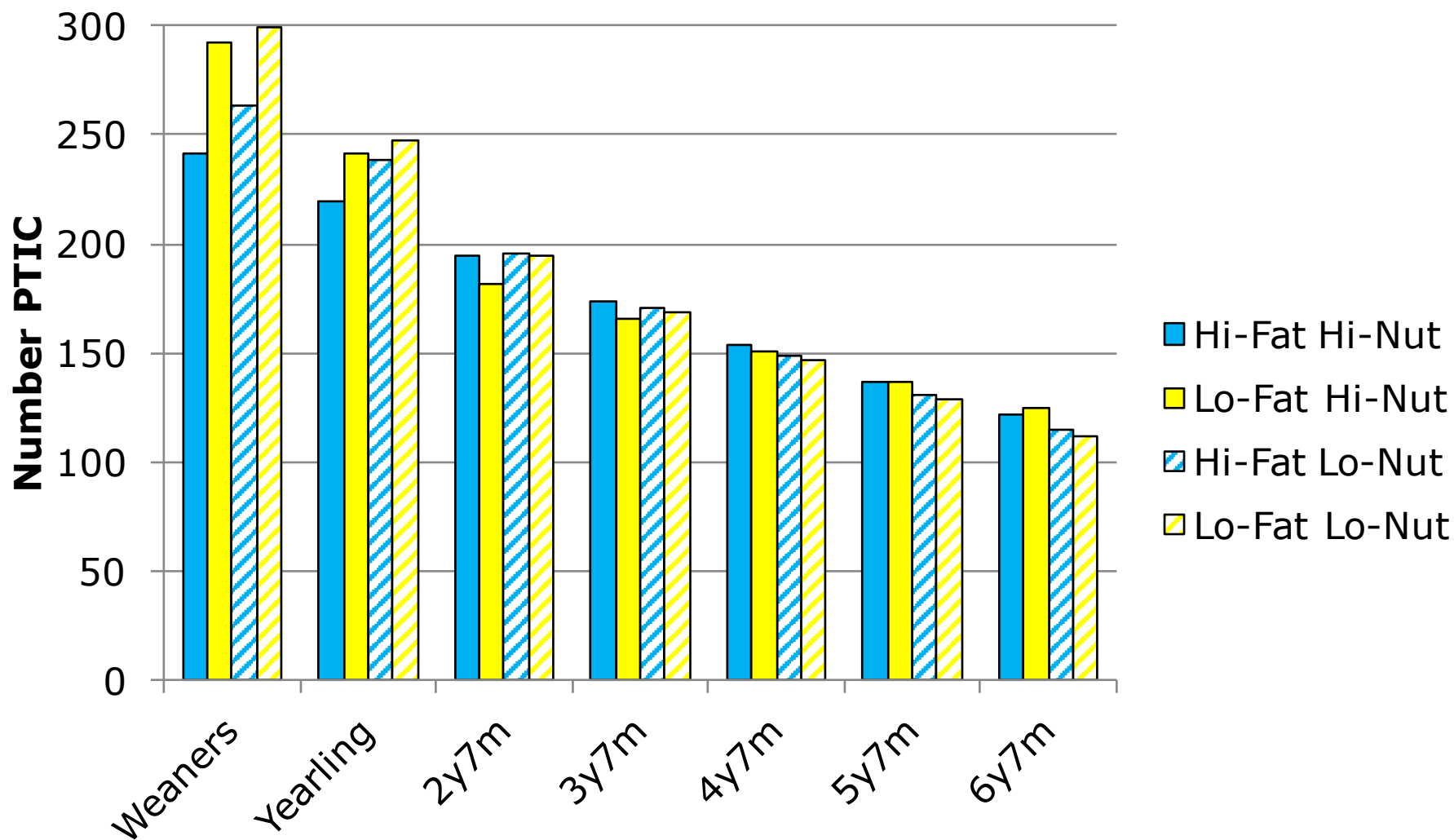
Reproductive performance



Assumptions for economic analysis

- Self-replacing herd of 1000 cows
- Cows calve in June, joined in September
- At the end of the year cows are pregnancy tested, calves are weaned
- Sales
 - Non-pregnant heifers and cows
 - Non-lactating cows
 - Old cows
 - Weaner steers and some heifers

Herd structure

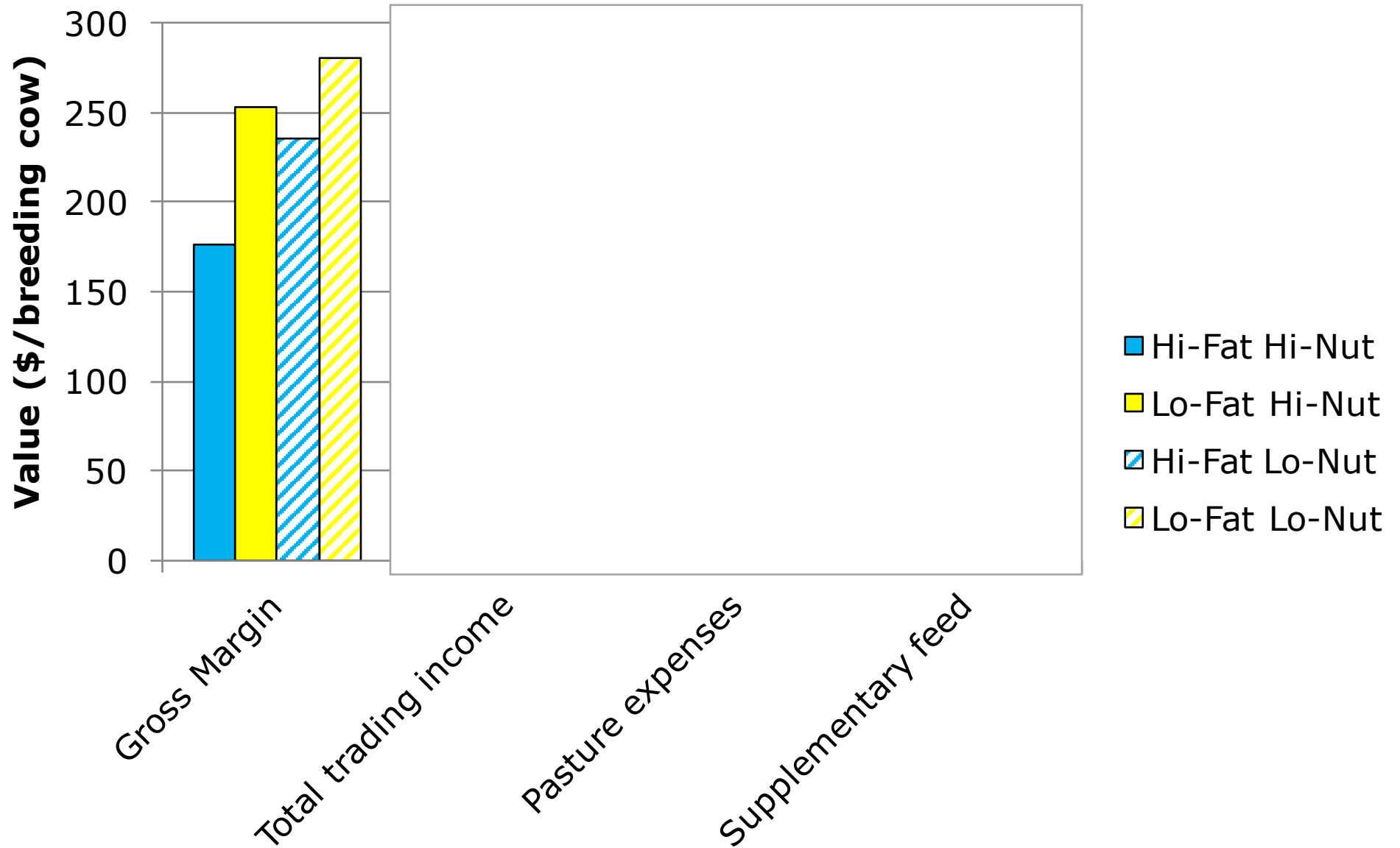


Assumptions

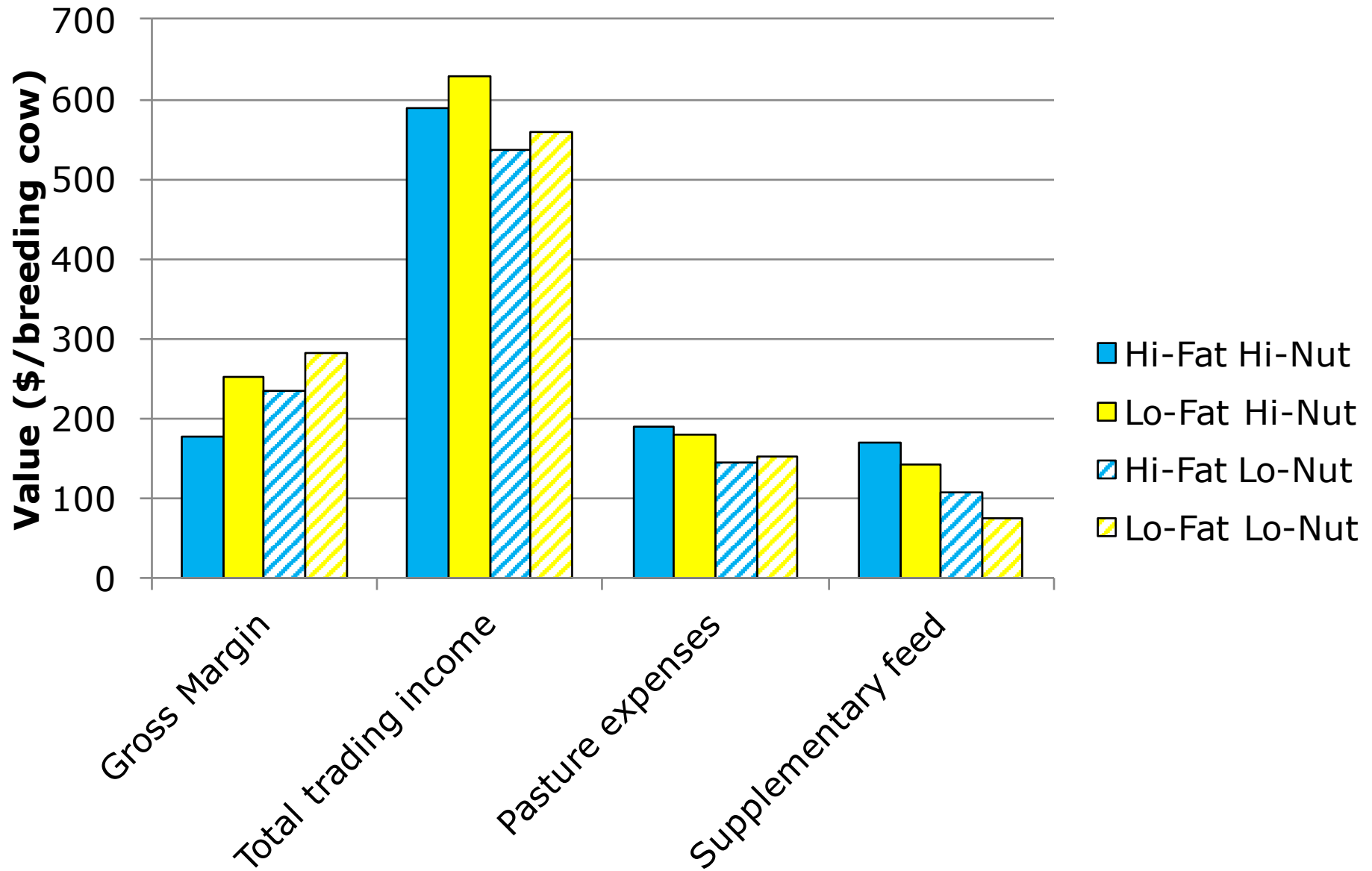
- Pasture \$0.0035 /MJ ME (\approx \$40/t DM)
- Hay \$140/t @ 9MJ = \$0.016 /MJ ME

	Current	NZD
• Weaners \$1.90 /kg	\$2.90	\$3.12
• Cull heifers \$1.50 /kg	\$2.50	\$2.69
• Cull cows \$1.30 /kg	\$2.00	\$2.15

Gross margin / cow



Gross margin / cow



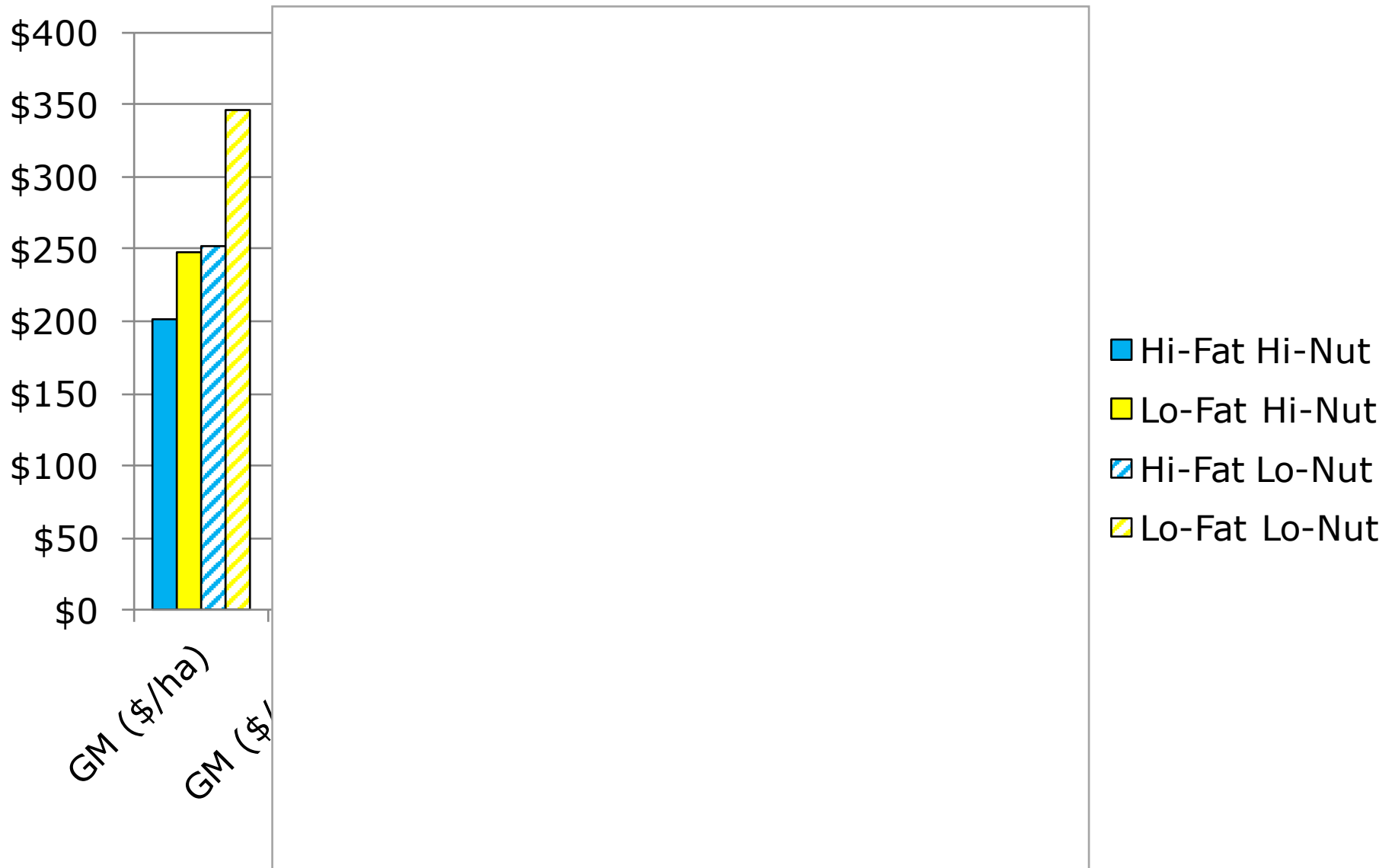
Assumptions

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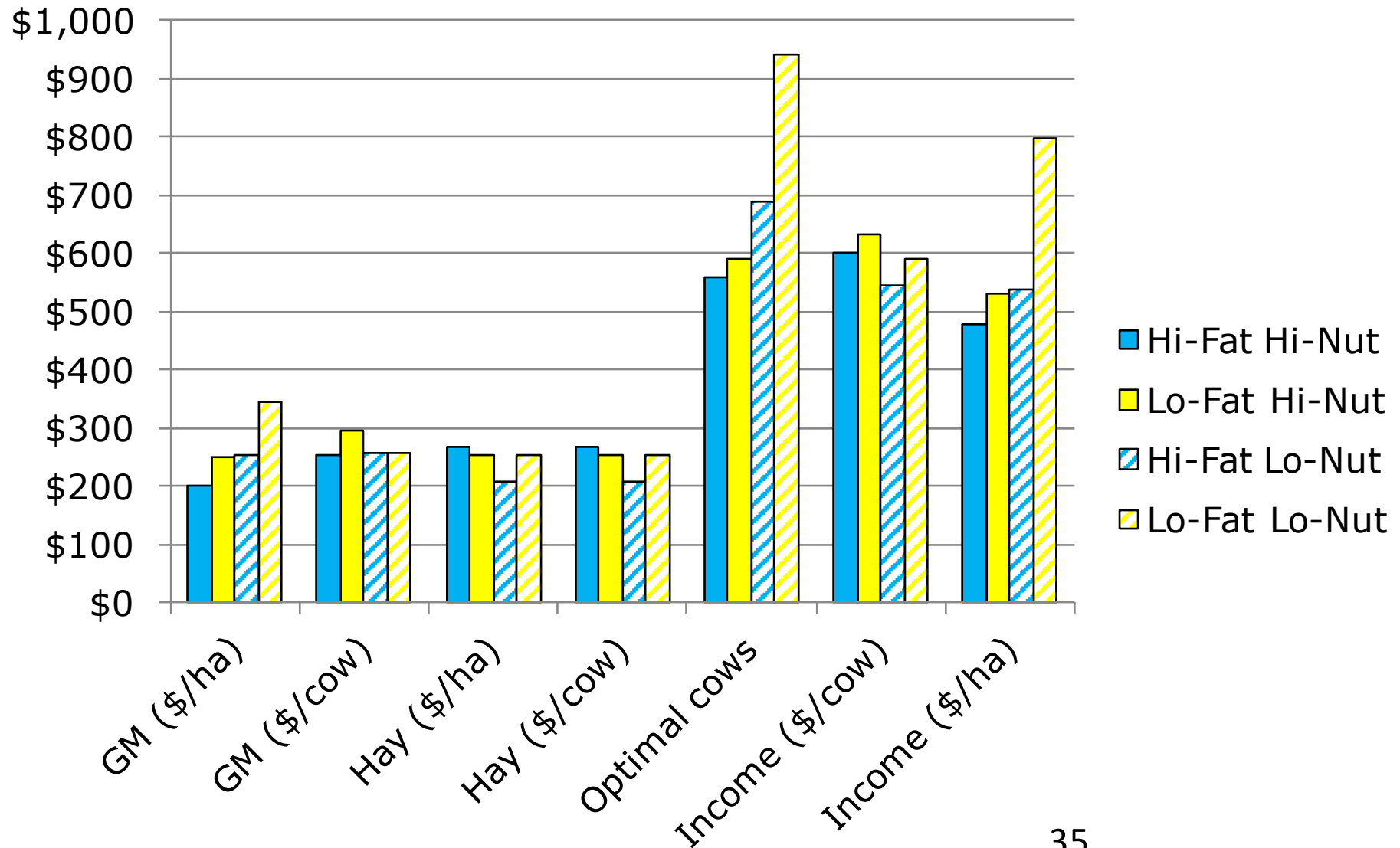
- Weaners \$1.90 /kg
- Cull heifers \$1.50 /kg
- Cull cows \$1.30 /kg

- Model farm 700 ha @ 600mm rain

Optimised GM / ha



Optimised GM / ha



Which is best?

- On Low-Nutrition, Low-Fat GM was \$281 vs High-Fat \$235, difference of \$46 / cow
- Supplementary feeding 100MJ/d costs \$1.60/d
- Difference of \$42 would be completely eroded in just 29 days of supplementary feeding

Which is best?

- Optimised whole farm GM, on Low-Nutrition, Low-Fat GM was \$346 vs High-Fat \$252/ha
- Difference of \$94/ha but 37% more cows
- Supplementary feeding 100MJ/d costs \$1.60/d x 1.37
- Difference of \$94 would be completely eroded in 43 days of supplementary feeding

Implications for NZ hill country?

- Calve August, join November, wean February?
- Can feed allocated for sheep be treated as equivalent to hay?
- What if cows pushed harder?
- Ongoing work in collaboration.

Thank you.
