



Black Baldy and Beyond

Prof Wayne Pitchford



THE UNIVERSITY
of ADELAIDE



Cundiff et al. 1974a,b; Koch et al. 1985

- Conceived first service 6.6% improvement (63.2 vs 56.6) (large effect in heifers and cows)
- Pregnancy tested in calf 5.2% improvement (89.7 vs 84.5)
- Live calf born 5.8% improvement (86.2 vs 80.4) (only small effect in heifers but big in cows)
- Live calf weaned 6.4% improvement (81.6 vs 75.2)

Cundiff et al. 1974a,b; Koch et al. 1985

- Birth weight 1.6% higher (34.6 vs 34.1kg)
- 200d weaning weight 4.3% higher (205.5 vs 197.1kg)
- Milk production at 6 weeks 7.5% higher (3424 vs 3184 g/12 hours)
- 200d weight weaned per cow exposed 21% improvement (172 vs 151kg)
- Traits like marbling had close to zero heterosis

Some theory

	Angus genes	Hereford genes	Maternal effect	Heterosis
Purebred Angus	100%	0	Angus	No
Purebred Hereford	0	100%	Hereford	No
Hereford x Angus	50%	50%	Angus	Yes
Angus x Hereford	50%	50%	Hereford	Yes

Harris Ranch Heterosis trial

- Slight advantage in pre-weaning growth
- Morbidity similar with possible slight advantage for crossbred
- Feedlot profitability \$30 greater due to better FCR
- Quality grade consistently favoured the Angus (average \$15.60 better)
- Pregnancy rates of heifers improved by 7% in relatively short breeding season (93 vs 86%)



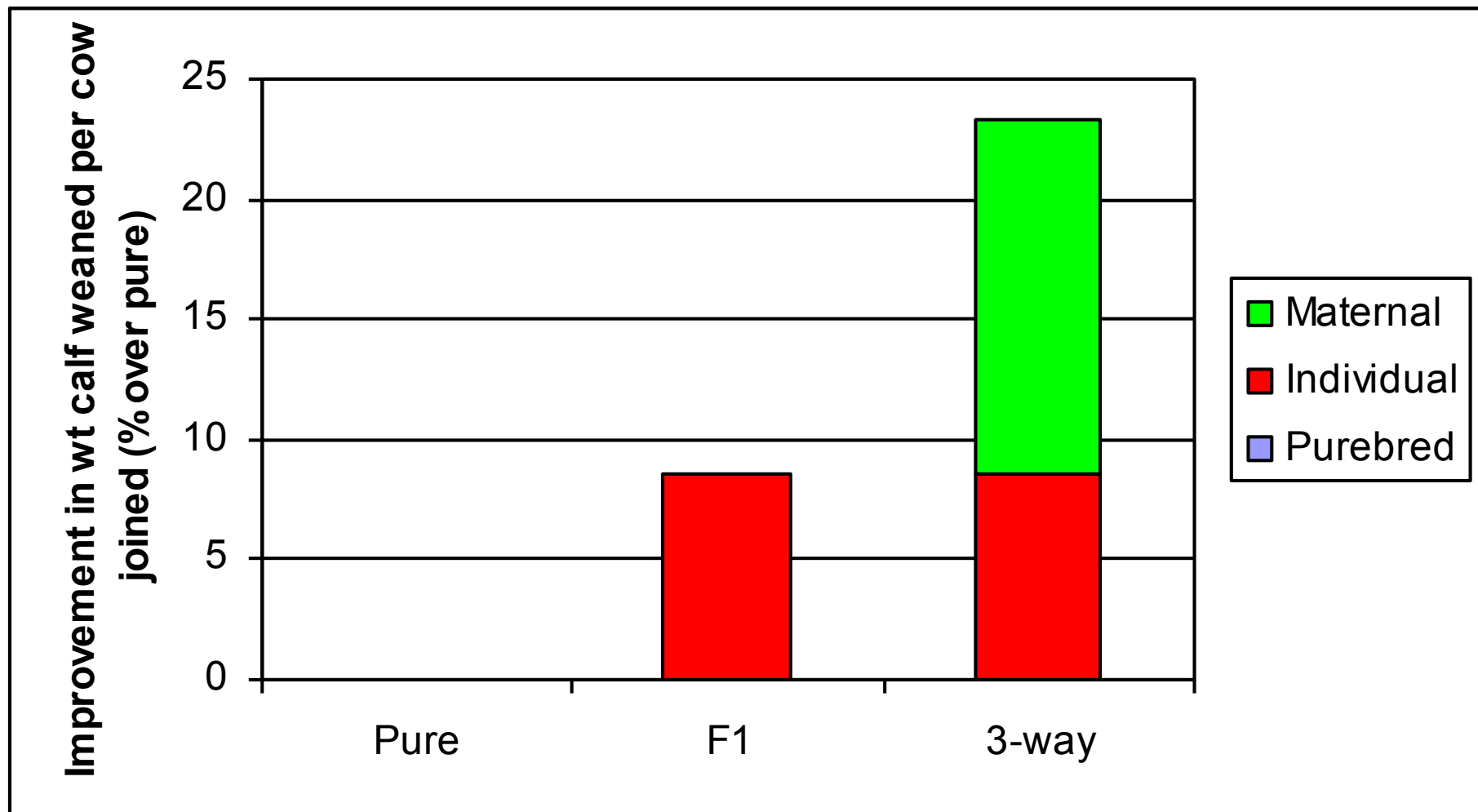


Progress

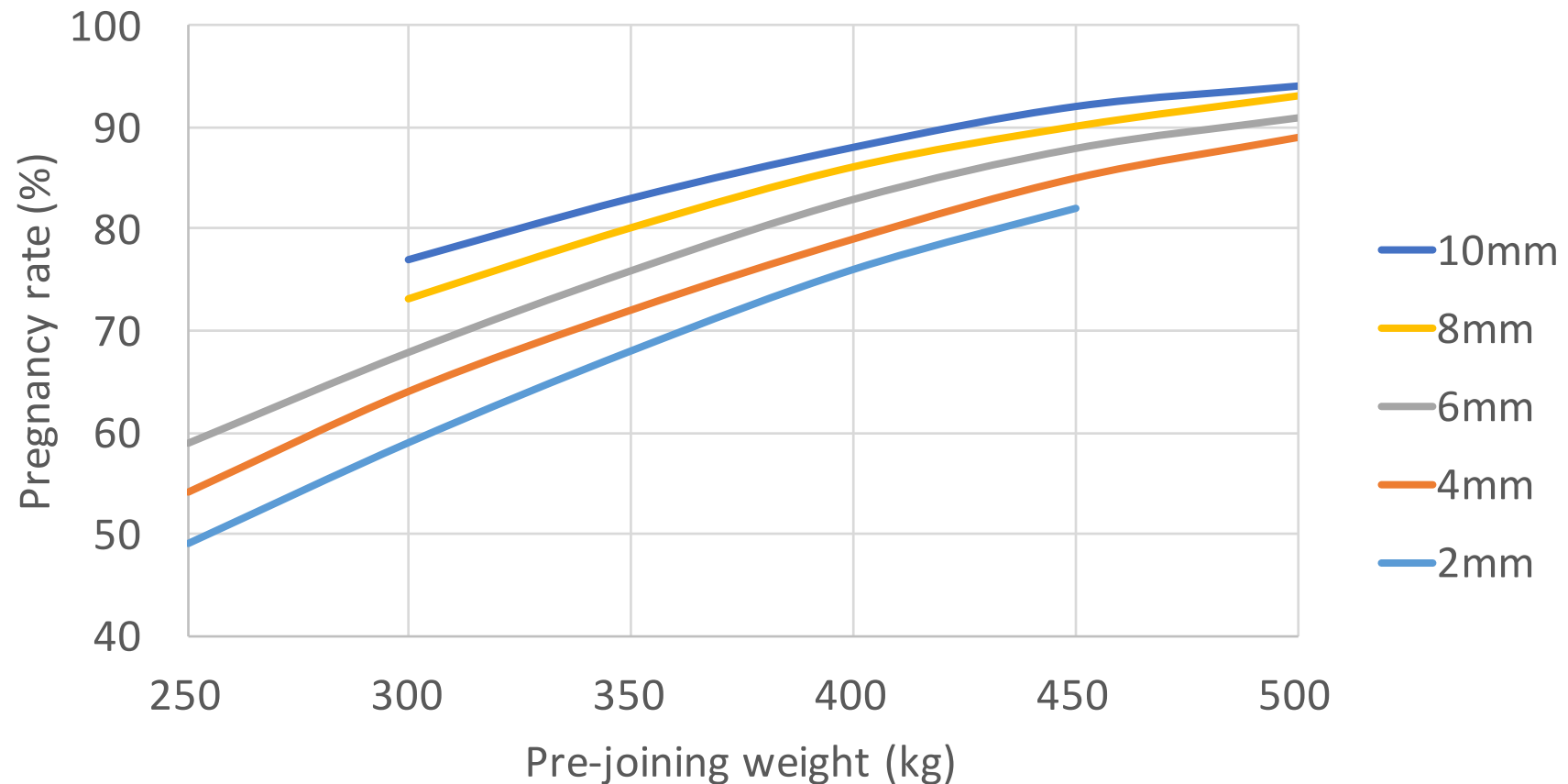
- 500 inseminated Sept/Oct 2014 (30/bull)
- 900 inseminated Sept/Oct 2015
- 900 inseminated Sept/Oct 2016 + 220 heifers
- Calves born July 2015, weaned March 2016
- Heifer ovarian scanning, mate Sept 2016
- Steers comp scan Dec, sold Jan-March 2017



Effects of heterosis on maternal performance



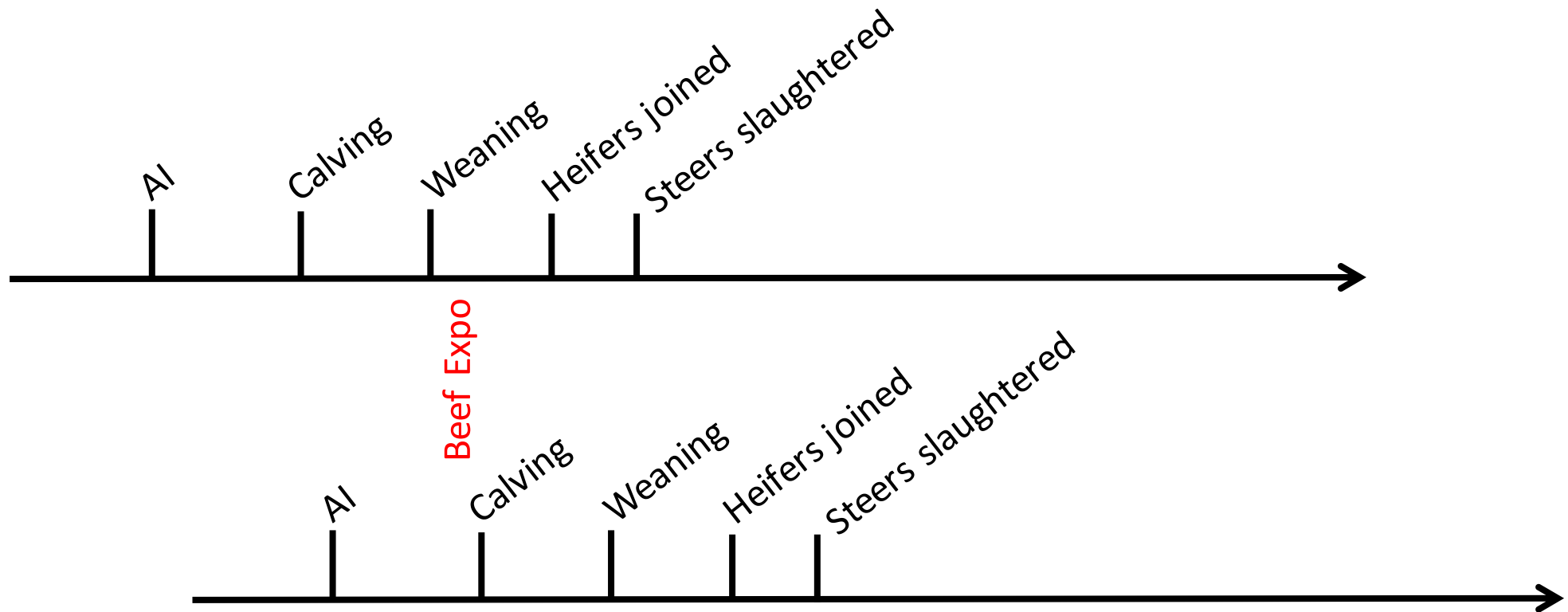
Effect of weight and fat on pregnancy rate under 6 week joining





Timeline – 3 joinings and long-term

2014	2015	2016	2017	2018	2019	2020
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Our results – 1st cohort only

- Calving ease – J heifer calving results

Sire breed	Unassisted	Easy pull	Hard pull	Mal-presentation	Total
Hereford	91	14	12	2	119
Angus	96	14	15	1	126

- Birth weight 37 vs 36 = 3.0%
- Weaning weight 219 vs 216 = 1.4%

Progeny test program

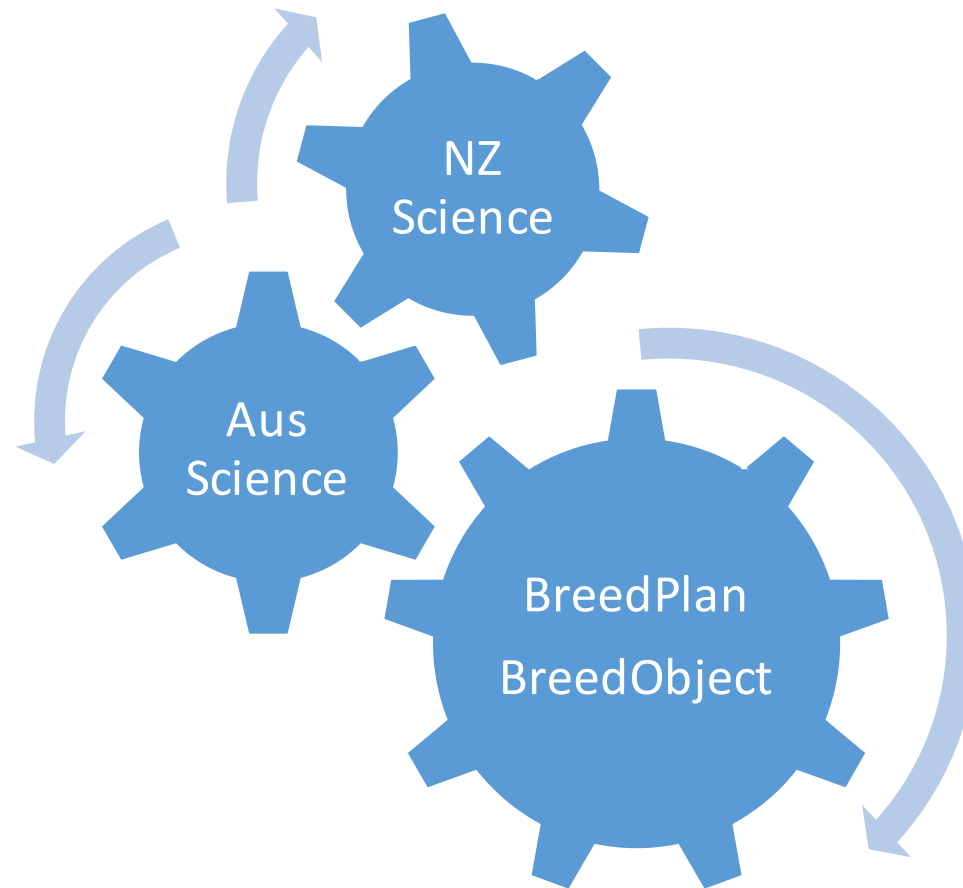
Bulls chosen with links to

- Angus Sire Benchmarking
 - Hereford Beef Information Nucleus
 - Beef + Lamb New Zealand Genetics
 - Joint Maternal Efficiency Project
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- Multiple breeder environments, multiple finishing systems, additional measurements, GxE, multi-breed EBVs and Genomics

Examples of sires used

Bull	NZ BPT	NZ Maternal Beef	NZ breeding herds	NZ Dairy-beef progeny test	Aust. Angus Sire Benchmarking Project	Aust. Hereford Progeny Test	Aust. Black Baldy Project	Australian Industry	American Angus Circle-A progeny test
Angus									
Rennylea Edmund E11	X	Sons	X	X	X		X	X	
Matauri Reality	X		X		X			X	
PA Safeguard	X		X					X	X
Hereford									
Wirruna Daffy	X	Sons??	X	X		X	X	X	
Wirruna Echuca	X		X	X		X	X	X	
EF Fortune	X						X	X	

Joint effort from NZ and Australian Science teams to improve services



Thank you.
