

Extending wether trial results

The value of good genetics on farm



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Criticisms of Wether Trials

- Who runs wethers anymore?
- “Reproduction is so important to profit”
- Doesn't properly account for the value of lambs in a breeding enterprise.



Options

- Run a ewe trial
 - Expensive
 - Need 40-50 ewes per team
 - Limit to the number of teams
- Use the wether trial data to parameterise a model (GrassGro)



The analysis

- Using Bungarby basalt farm system
 - 80% fertilised native
 - 20% fully improved.
- Farm running approximately 8000 dse.
- Simulation from 1970 – 2012
- Using 5 yr average commodity prices to June 2012.



The Bloodlines

- Ram breeding flocks excluded.
- Chose 6 teams
 - representing common Monaro bloodlines.
 - Ranging from high to low wool value / head.
 - Identity of the teams hidden.



The Bloodlines.

Bloodline	GFW%	Micron Dev	Yield Dev	Fleece free Bwt %	SRW%	Wool Value %
1	9%	0.1	-0.1	+5%	0%	+8%
2	-4%	-1.2	+0.6	-6%	-5%	+8%
3	9%	0.9	-0.3	-4%	-3%	+7%
4	1%	-0.3	+1.4	-1%	-2%	+1%
5	-1%	0.1	-2.6	-8%	-3%	-6%
6	-14%	0.3	+1.2	+14%	+13%	-17%
Average	6.0	17.8	71.3	48.0	46.2	\$ 43.41
Range	1.4	2	4	10.4	8.3	\$ 11.05



Calculating the SRW of the ewe

Wether Fleece Free Bwt. = Raw Live weight – GFW

Wether Bwt (CS3) = (3 - Current CS) * 10kg + Fleece free Bwt.

Estimates published in the Lifetime wool data are around 19% of SRW per CS
I have rounded this to 10kg per CS

SRW ewes = 86% of Wether Bwt (CS3)



The GrassGro Parameters

Bloodline	GFW%	Micron	Yield%	SRW
1	5.6	17.9	71.2	46.0
2	4.9	16.6	71.9	43.9
3	5.6	18.6	71.0	45.0
4	5.2	17.5	72.7	45.2
5	5.1	17.9	68.7	44.9
6	4.4	18.0	72.5	52.1
Average	5.1	17.8	71.3	46.2

Conception rates = 5% Dries and 35% Twins at CS 3 (130% scanning)

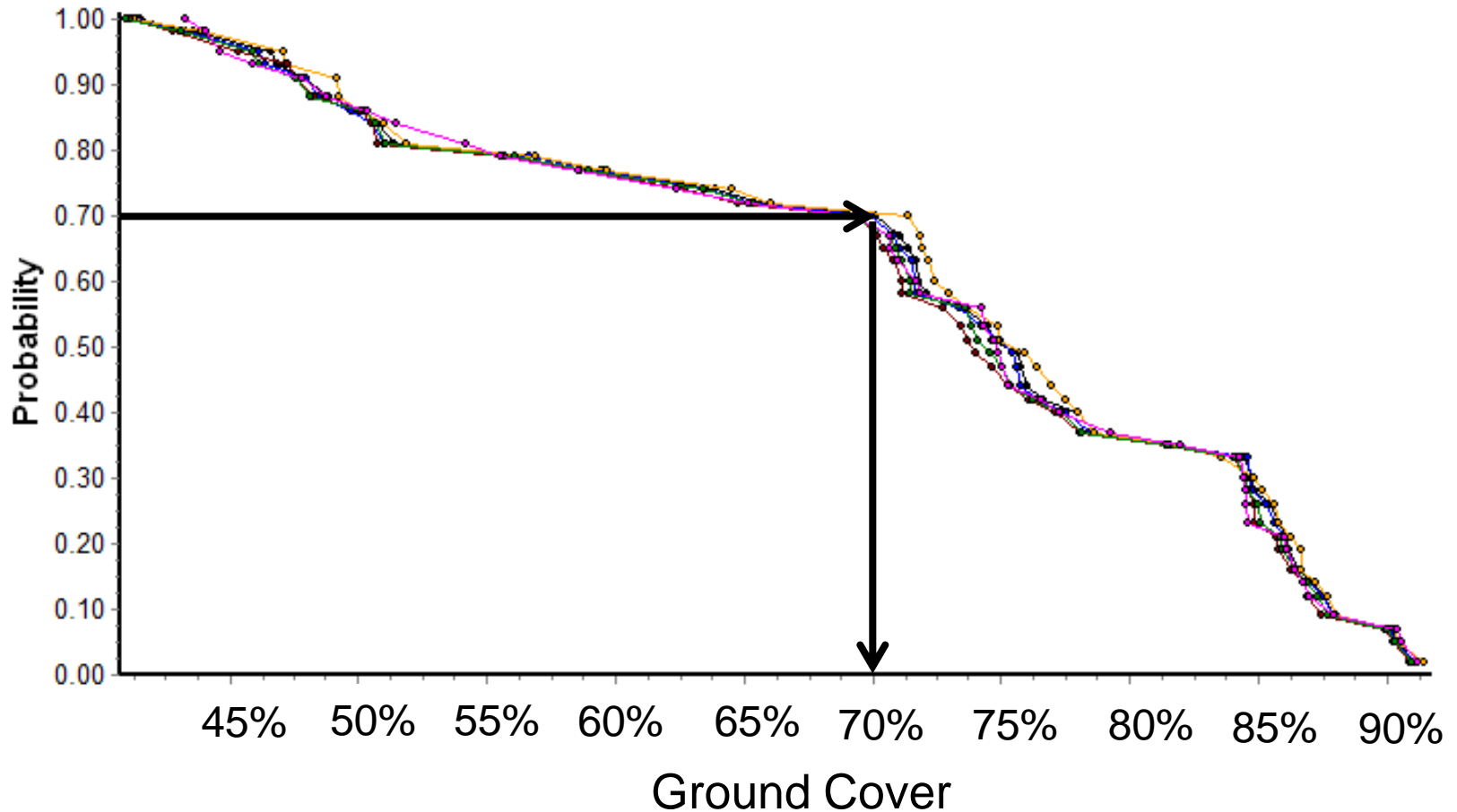


Sustainable stocking rates

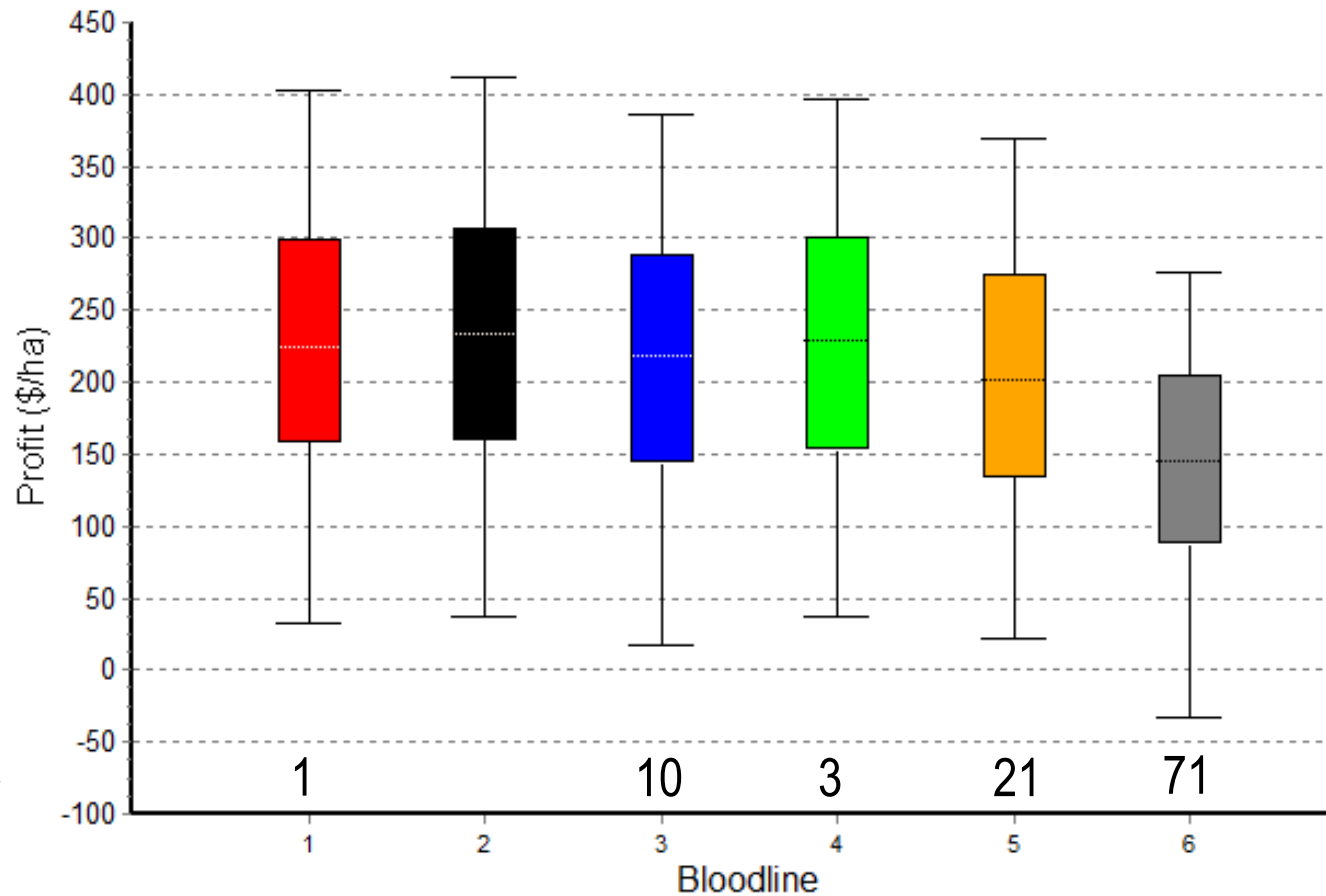
Bloodline	Ewes Joined/ha
1	4.4
2	4.7
3	4.5
4	4.6
5	4.6
6	3.9



Ground Cover Retention



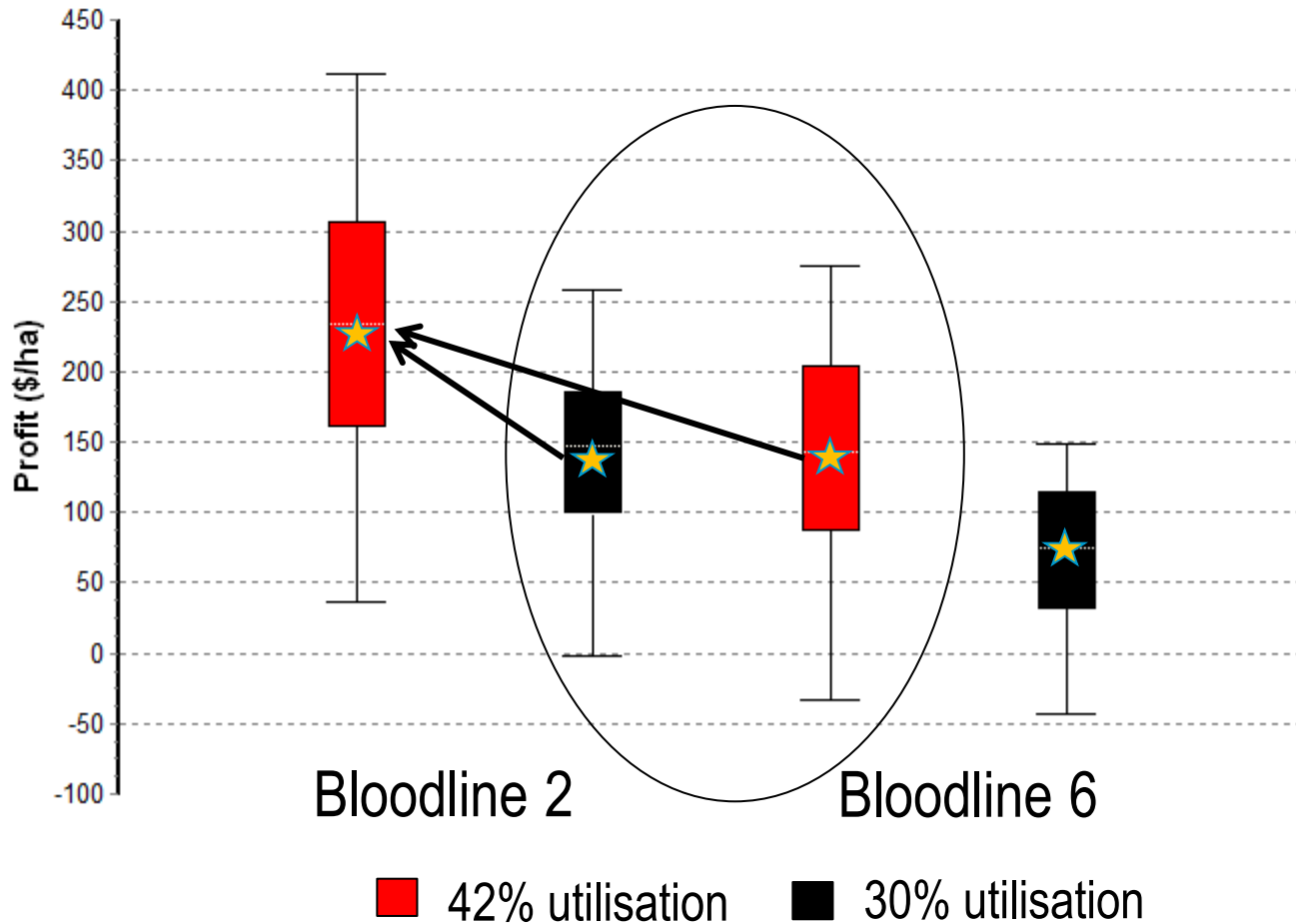
Profit for a breeding ewe enterprise



Forgone Farm Profit
\$ x1000



Stocking rate effects on comparisons

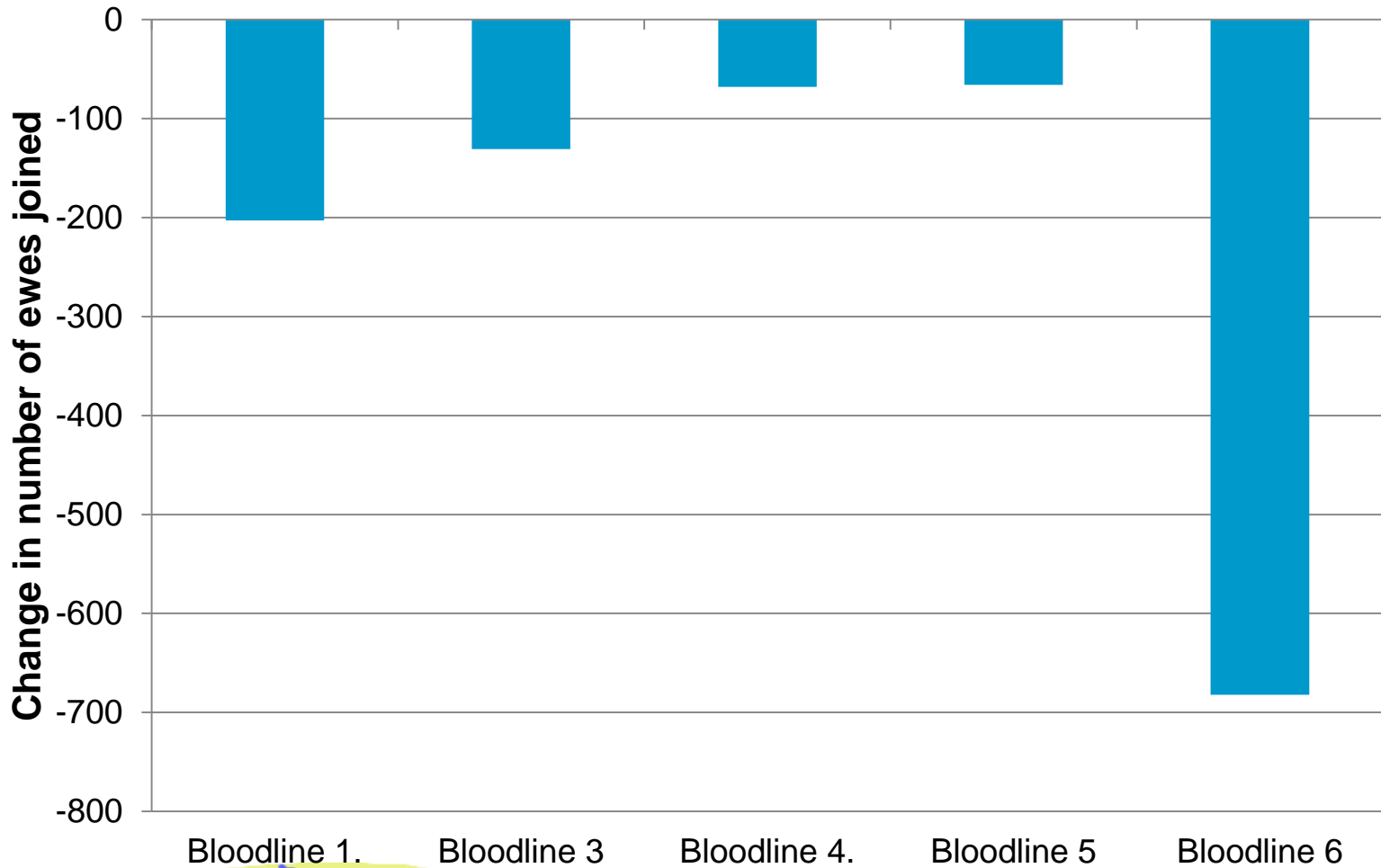


Where are the differences

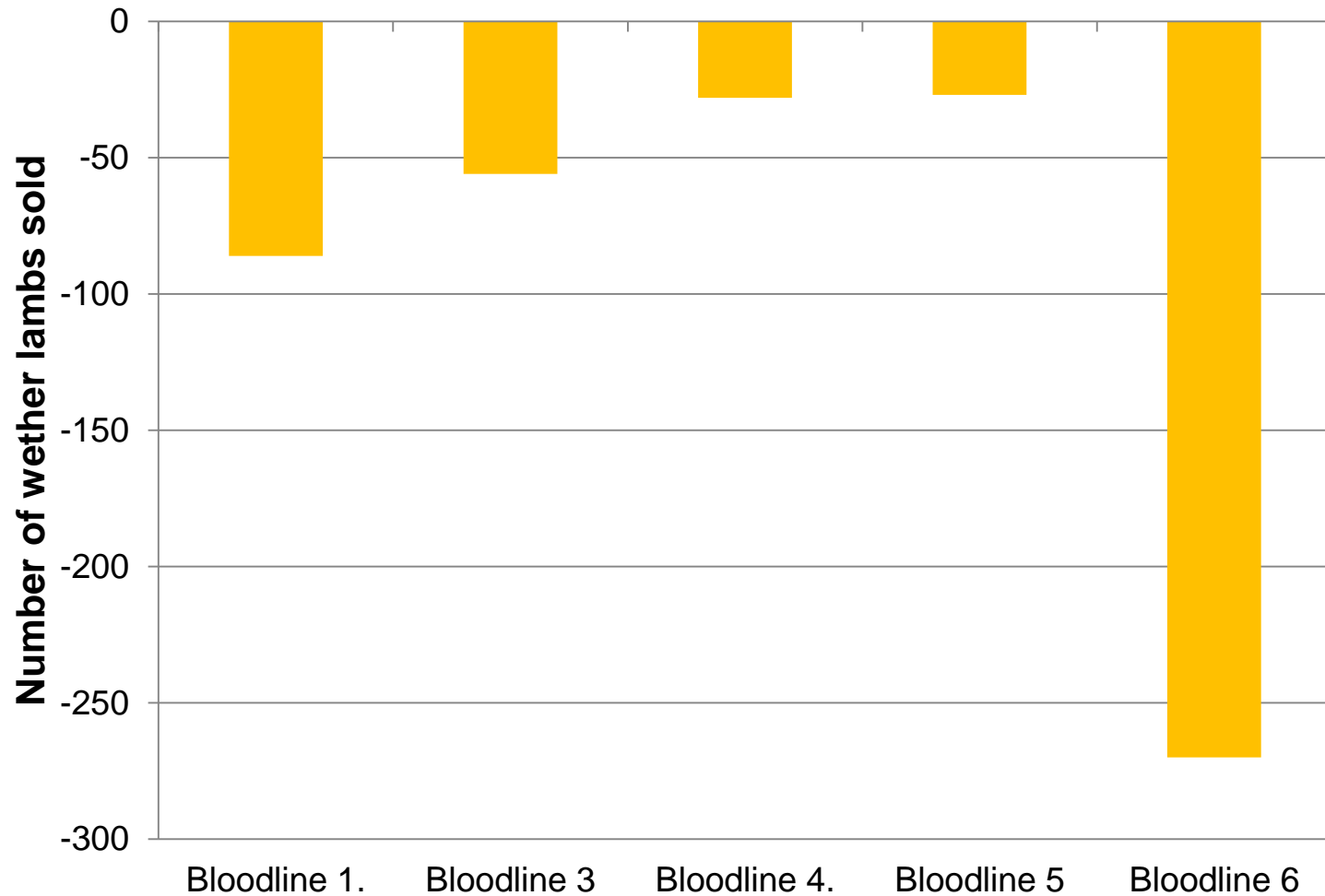
- Relative to Bloodline 2.



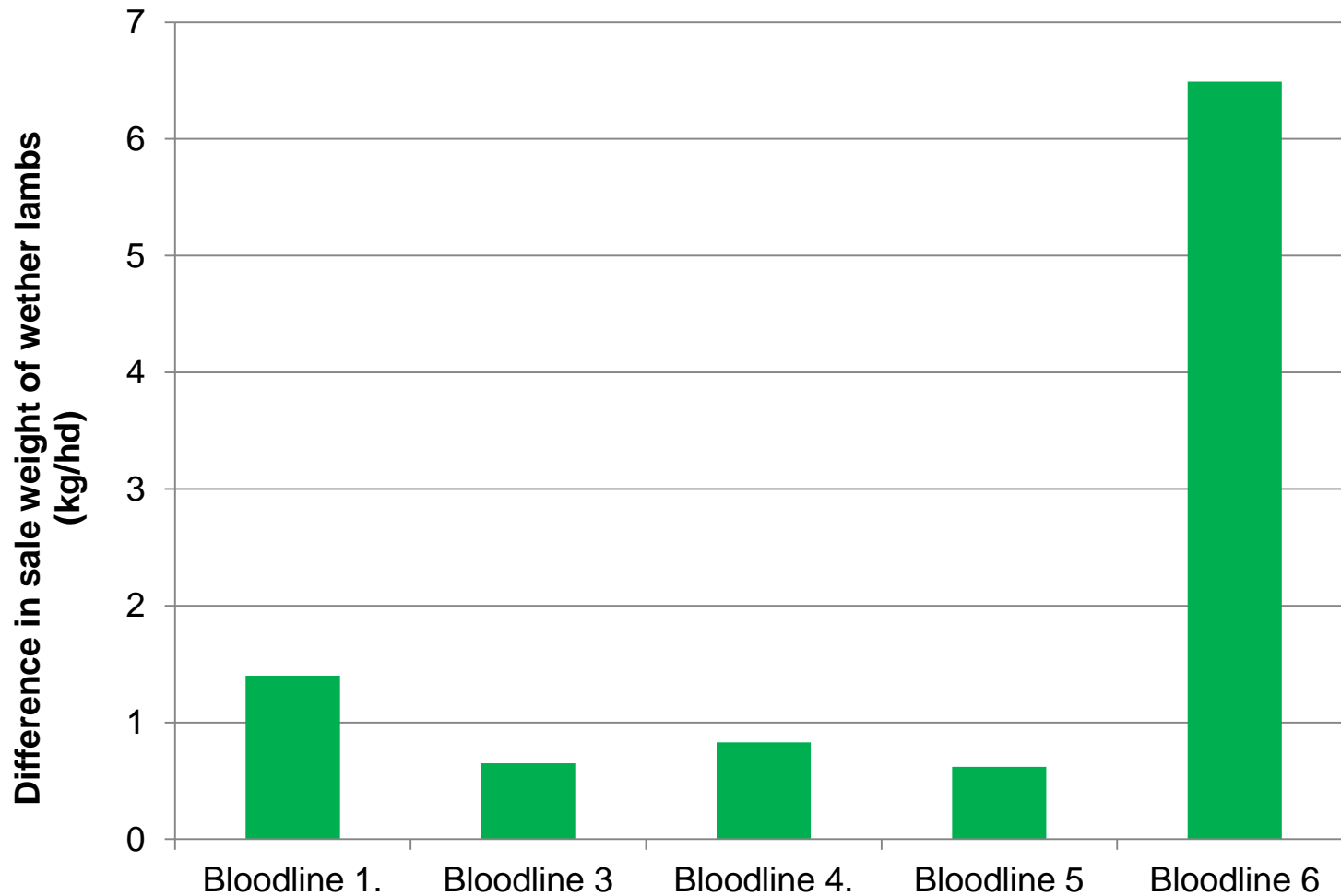
Number of ewes joined



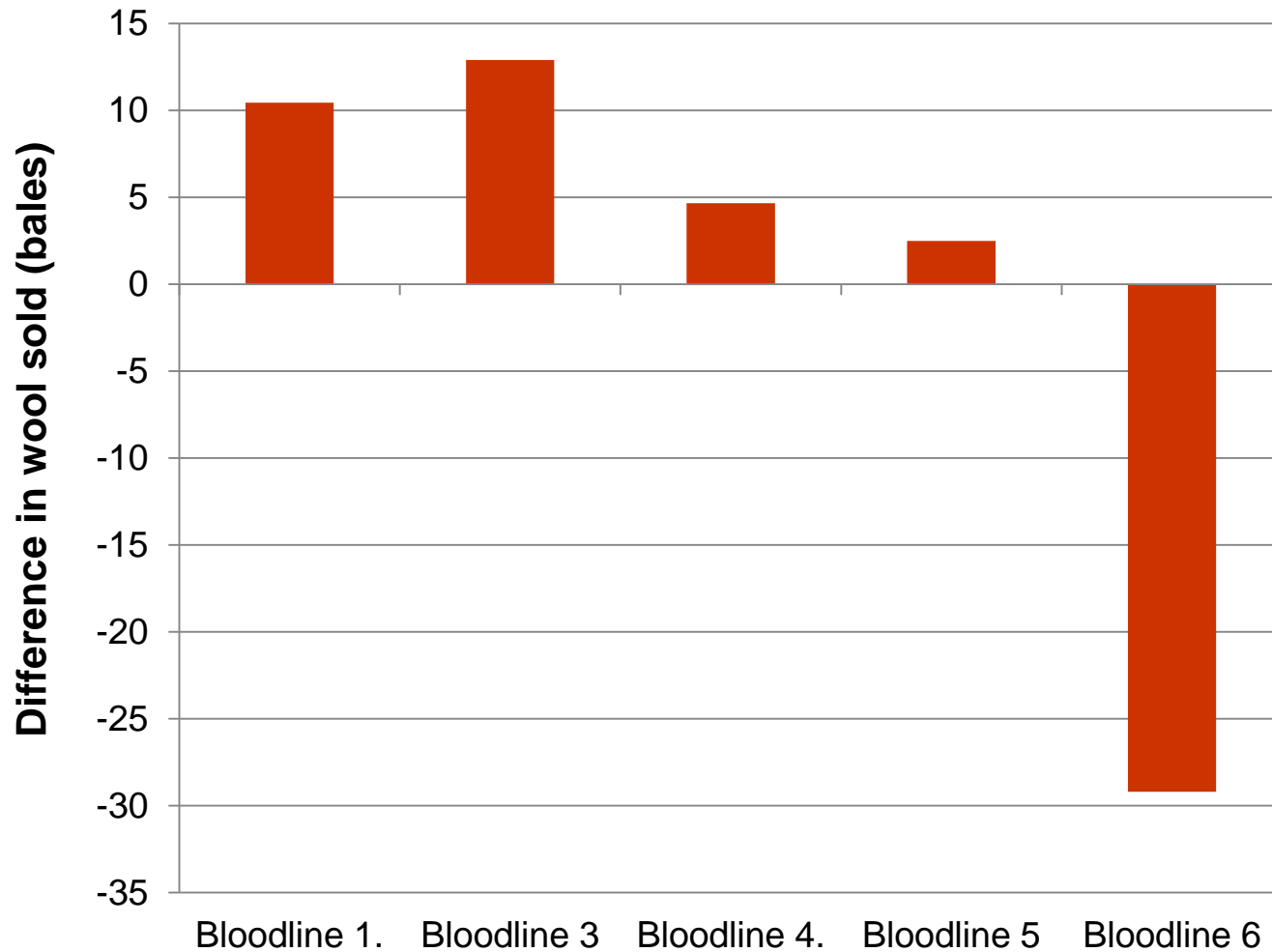
Number of lambs sold



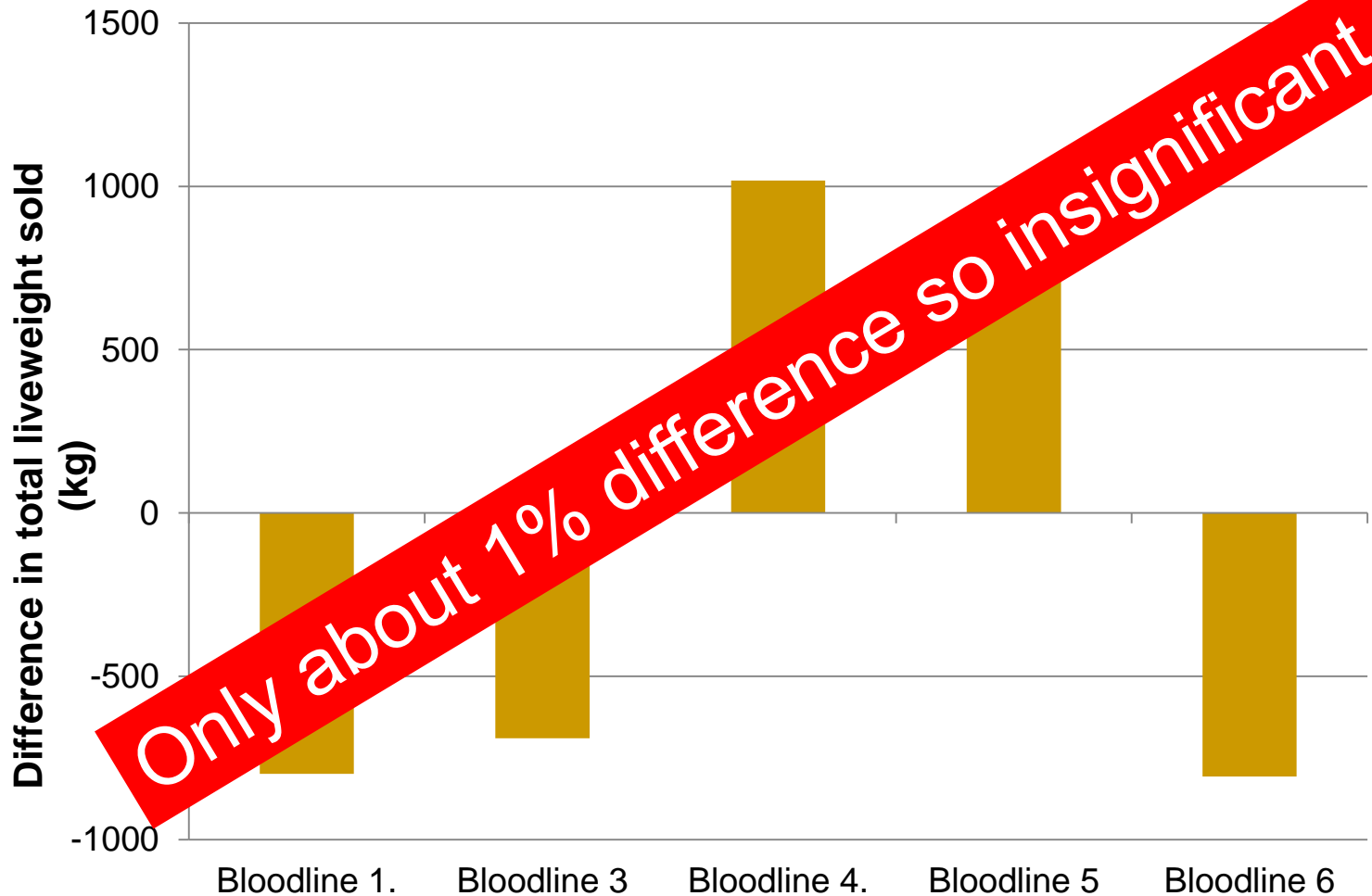
Lamb Sale Weight



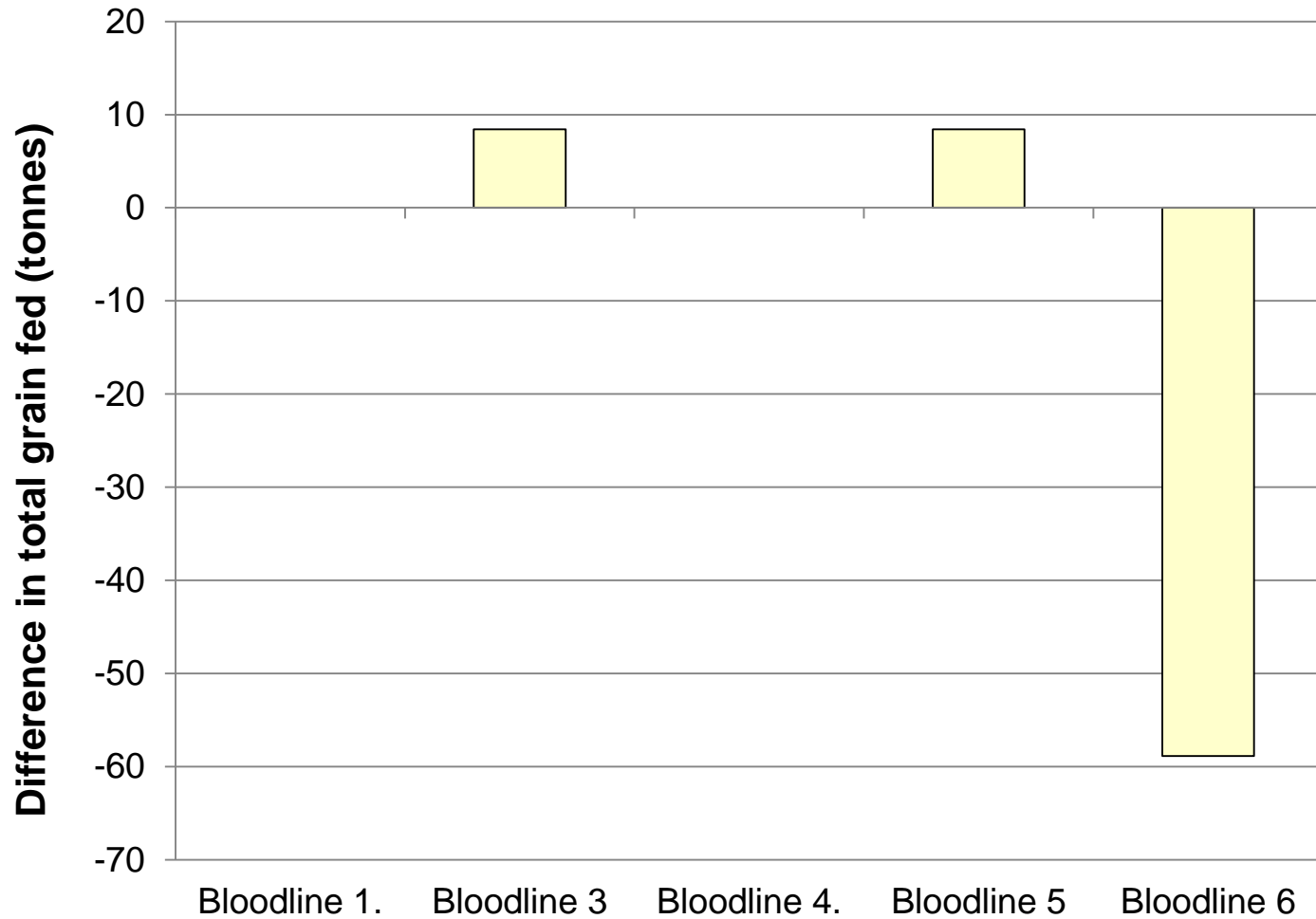
Bales of wool sold



Total liveweight sold (kg)



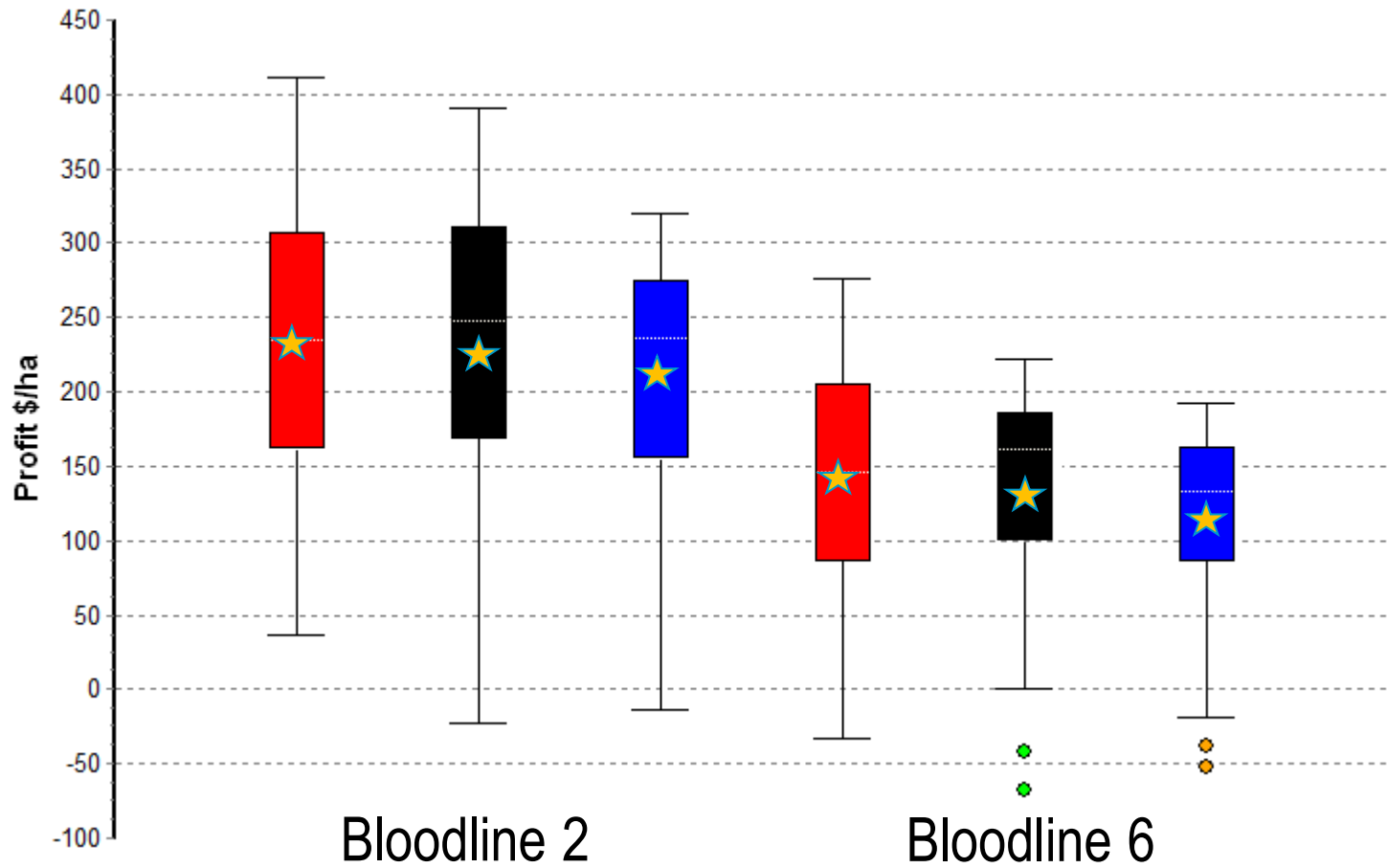
Average Grain fed (kg)



Impact when the flock has a proportion of wethers.



Enterprises with wethers



■ Breeding ewes ■ 1000 wethers

■ 1500 wethers

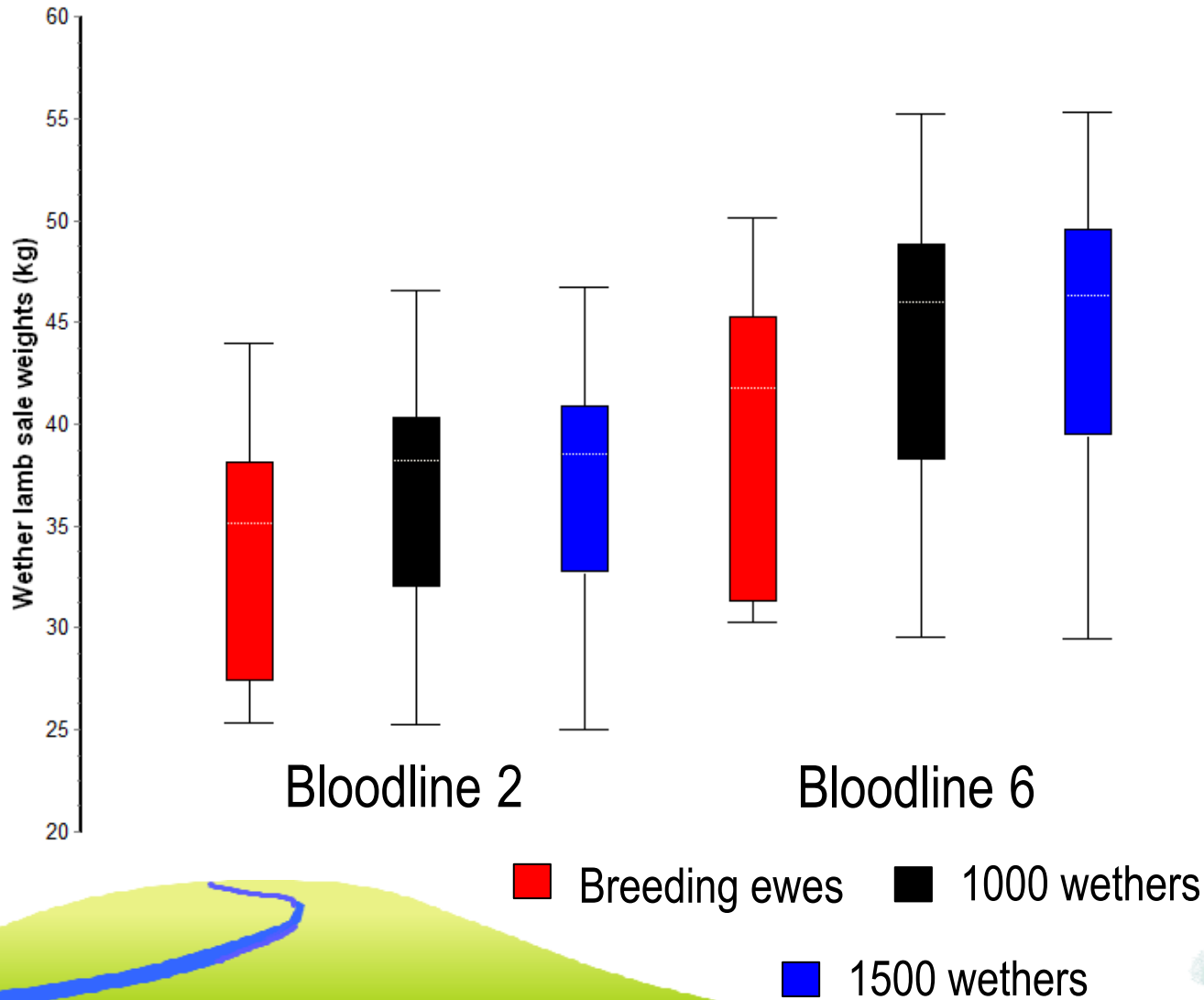


Contribution of wool to total income

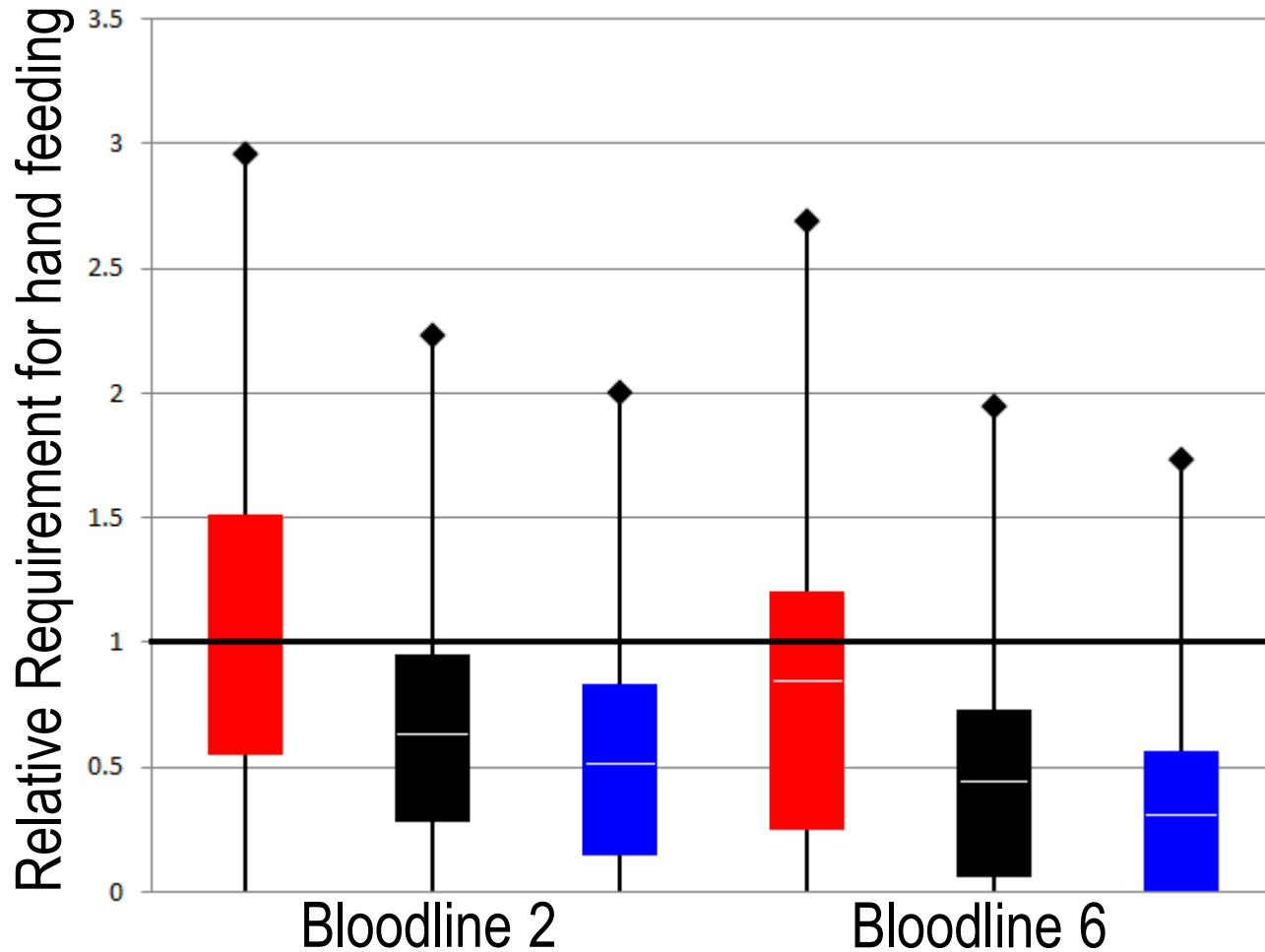
Bloodline	Enterprise		
	No wethers	1000 wethers	1500 wethers
Bloodline 2 (ewes)	57%	63%	65%
Bloodline 6 (ewes)	48%	55%	58%



This is despite lamb sale weights increasing



Another reason to run some wethers

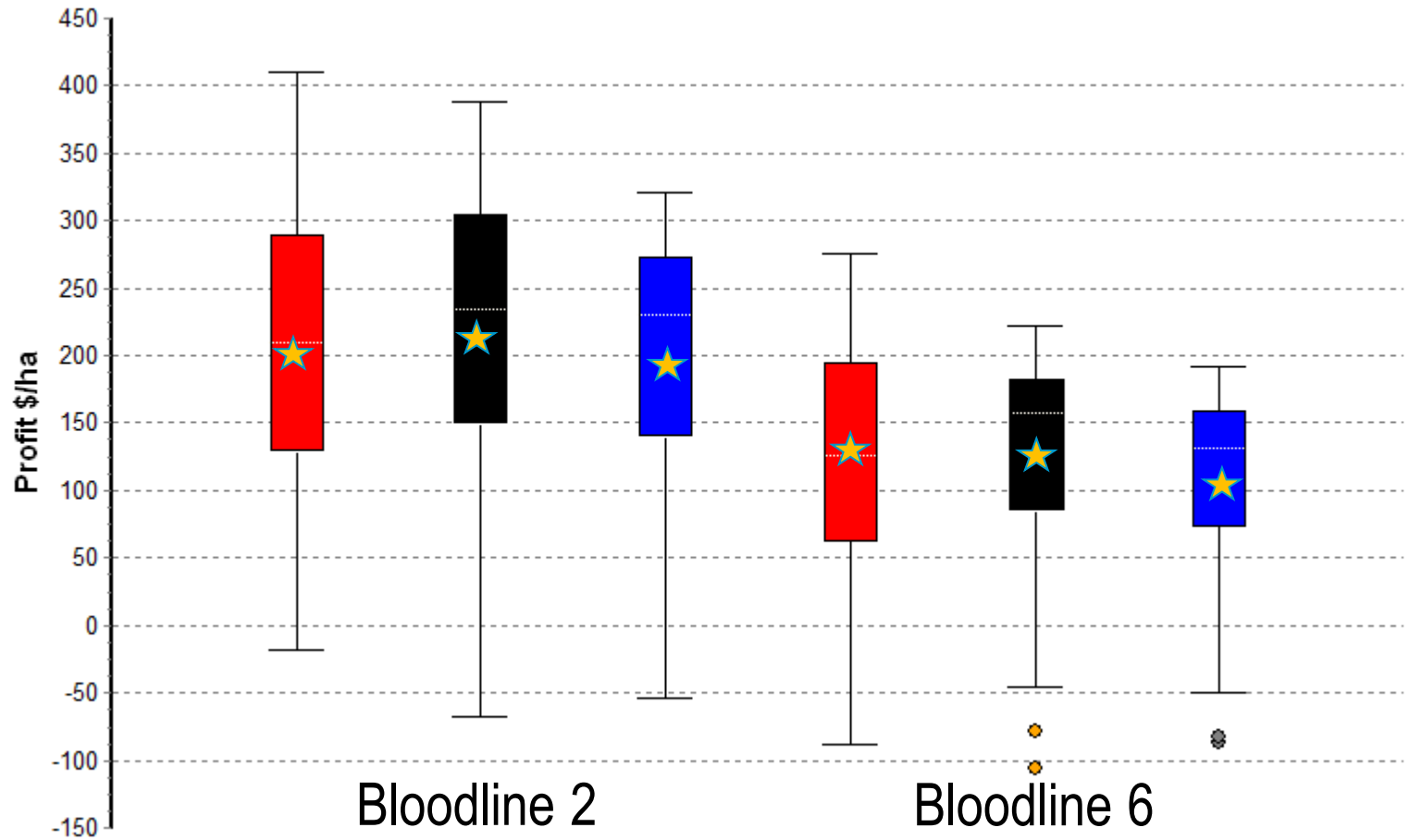


■ Breeding ewes ■ 1000 wethers

■ 1500 wethers



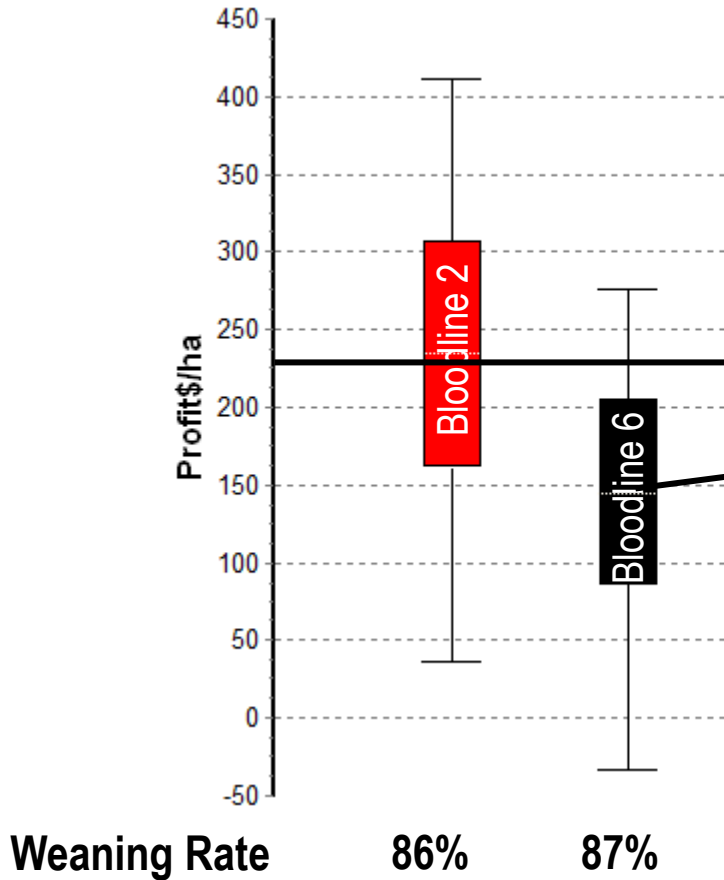
Profit when feed costs an extra \$80/tonne



Red Breeding ewes Black 1000 wethers
Blue 1500 wethers

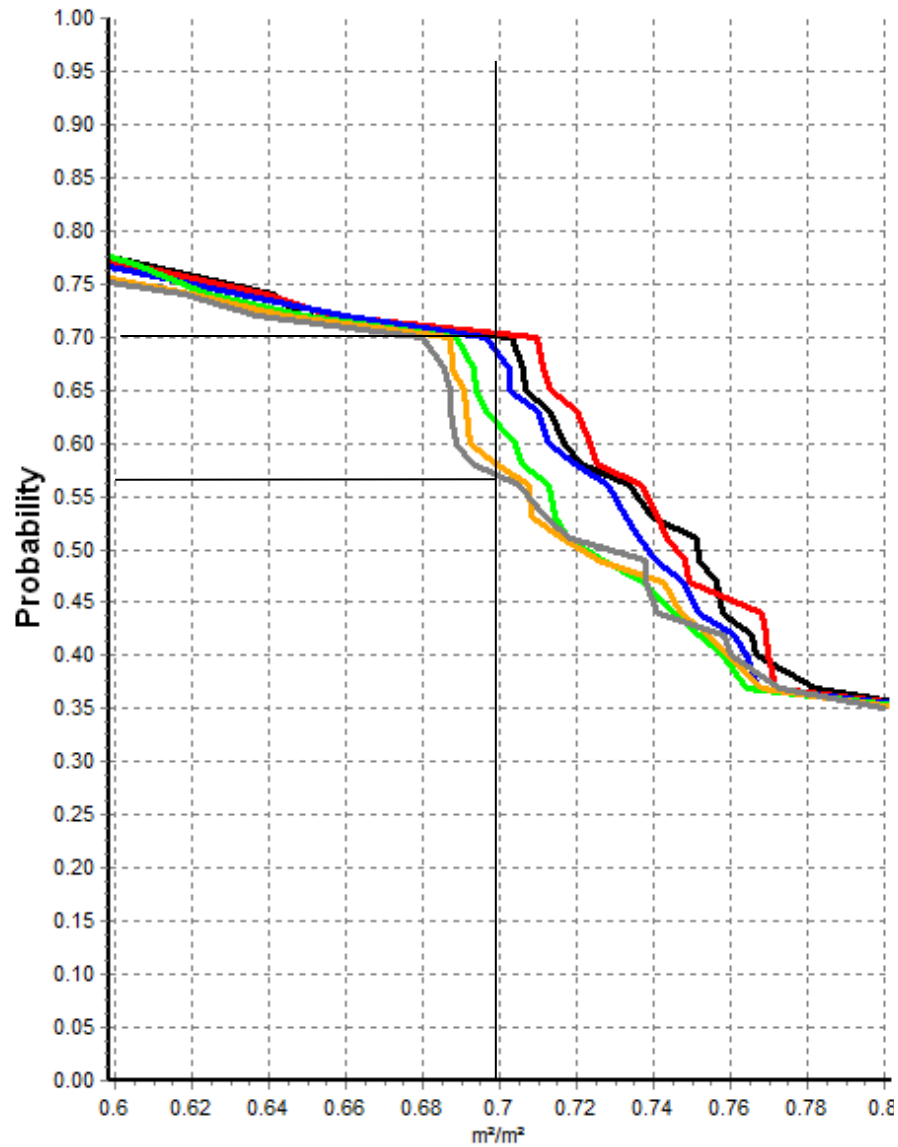


But aren't the bigger plain sheep more fertile?

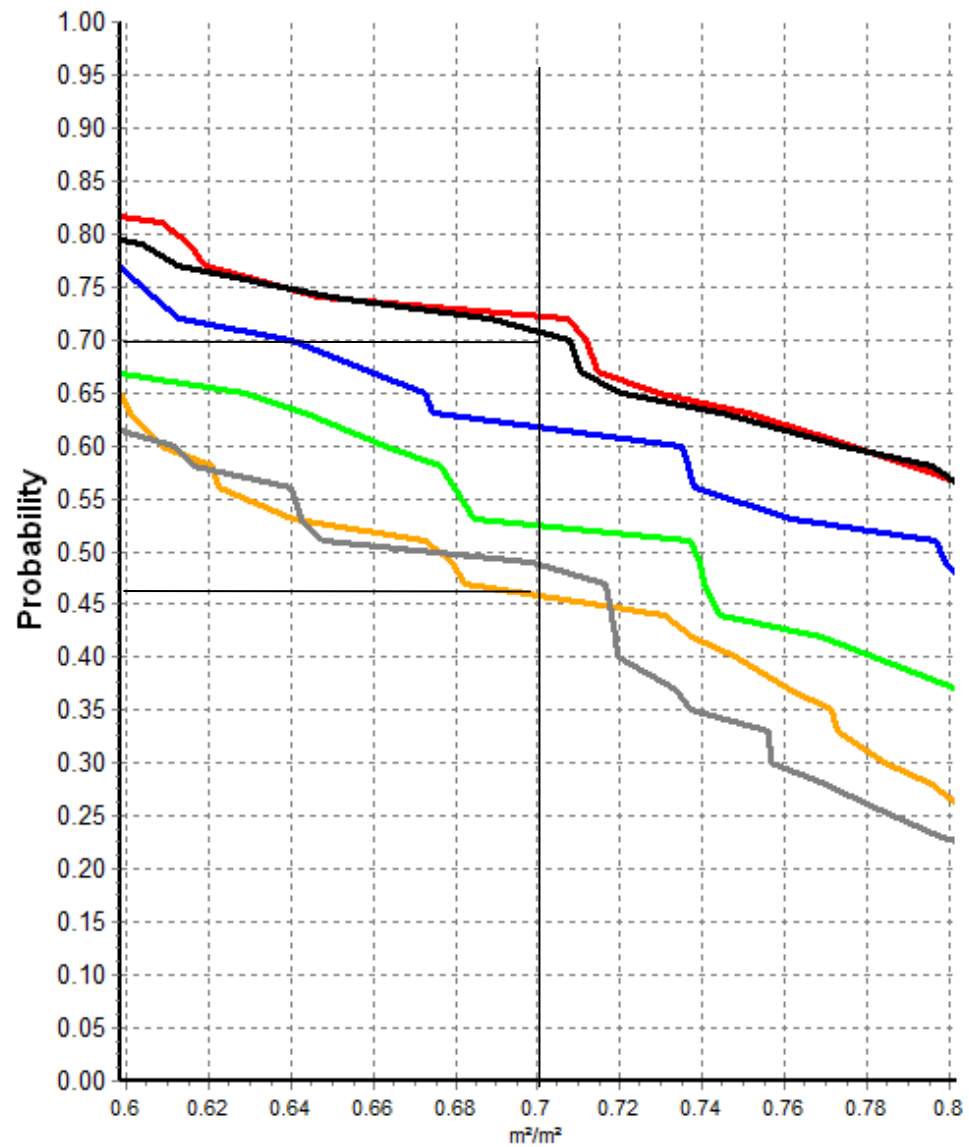


But....

Native Pasture



Improved Pasture



Reflected in Lamb Sale weights

	Bloodline 2	Bloodline 6				
Weaning Rate	86%	87%	98%	108%	118%	123%
Wether Lambs kg	33.2	39.6	38.8	38.4	37.8	37.3



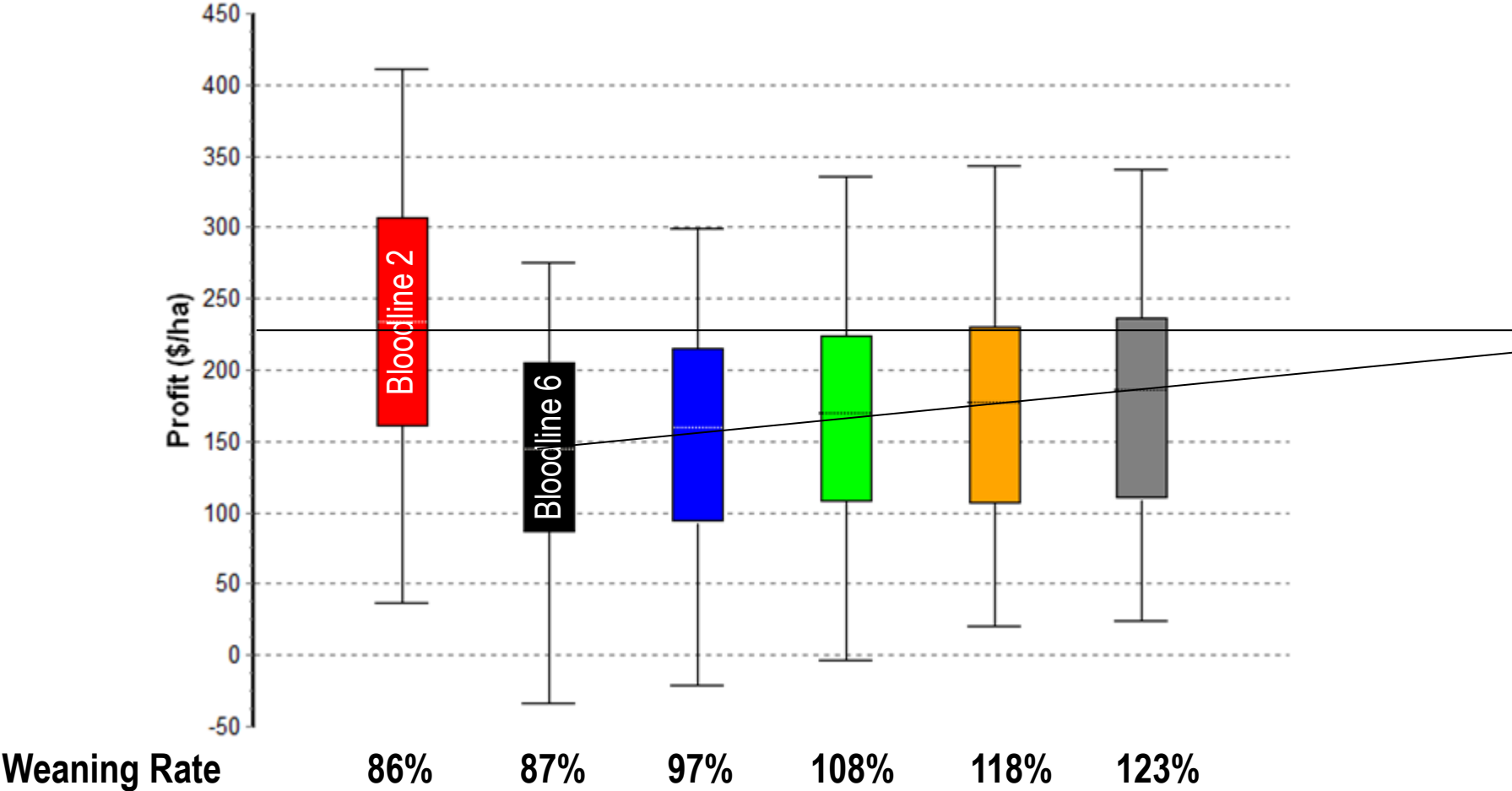
Re-optimised Stocking Rates

		Bloodline 2	Bloodline 6				
Weaning Rate		86%	87%	98%	108%	118%	123%
Stocking rate	ewes/ha	4.7	3.9	3.7	3.6	3.5	3.4

Along with some reallocation of ewe weaner grazing



Run at sustainable stocking rates



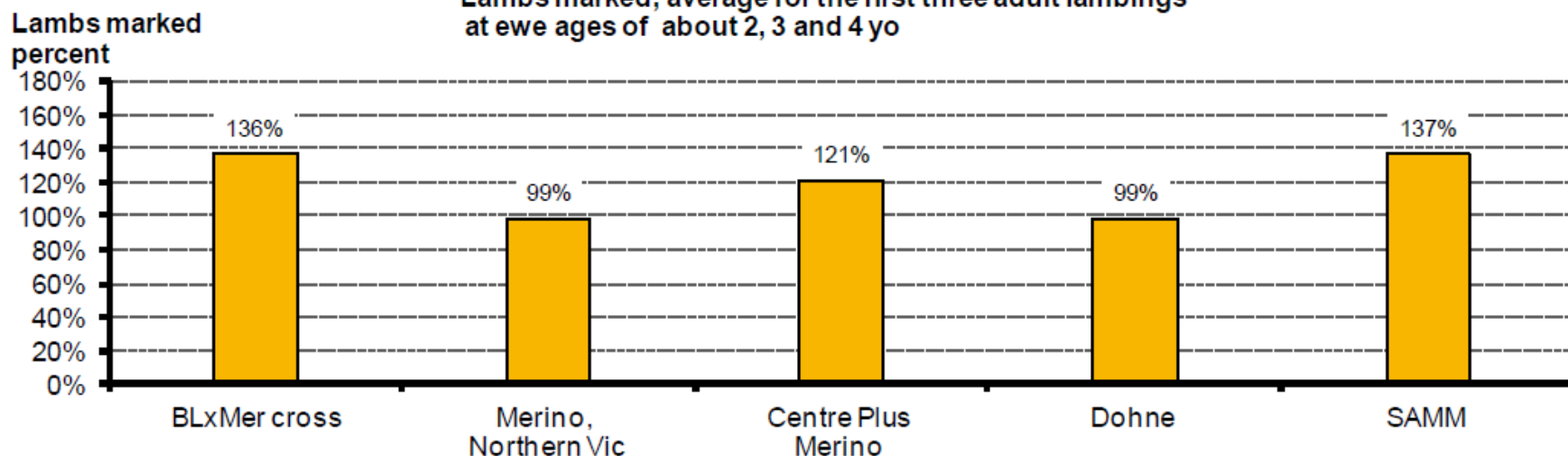
Are these weaning rates possible?

- Differences this big are there in the industry. BUT.....
- Are they genetics or management related?



Elmore Ewe Trial

Lambs marked; average for the first three adult lambings at ewe ages of about 2, 3 and 4 yo



Lamb Growth

Breed	BL x Merino cross	Merino Northern Vic	Centre Plus Merino	Dohne	SAMM
Lamb weight gain from marking to sale of the first draft, 2010 and 2011 grams/day	254	231	248	246	256
Least significant difference between any two breeds 8 grams/day					

Clean Fleece Wt.

Breed	BL x Merino cross	Merino Northern Vic	Centre Plus Merino	Dohne	SAMM
Clean fleece weight, average first 3 shearings, 2009, 2010 and 2011, kg	3.62	4.24	3.69	3.08	2.41
Least significant difference between any two breeds 0.14 kg					

Genetic Differences Between Merinos

ASBV and Index Percentile Band Table

Analysis **MERINO** Run date **21-Jul-13**



Animals born in **2011**

Band	Yfd u	Ycfw %	Yfdev %	Ysl mm	Yss Nktex	NLW %	Ysc cm	Ywec %	Ywt kg	Yfat mm	Yemd mm
0	-5.5	39.7	-3.6	27.7	11.0	27	5.3	-98	17.7	3.2	4.8
1	-3.9	27.2	-2.7	17.6	6.0	16	3.7	-89	11.1	1.5	2.8
2	-3.5	25.2	-2.5	16.4	5.3	14	3.3	-84	10.1	1.3	2.6
3	-3.3	23.9	-2.4	15.5	4.8	13	3.1	-73	9.4	1.2	2.4
4	-3.1	23.0	-2.3	14.8	4.6		0	-66	9.0	1.1	2.3
5	-3.0	22.1	-2.2	14.3	4.3		9	-60	8.7	1.1	2.2
10	-2.6	19.2	-2.0	12.3	3.5		5	-49	7.6	0.9	1.8
15	-2.3	17.1	-1.8	11.0	2.9	7	2.3	-41	6.9	0.7	1.6
20	-2.1	15.4	-1.6	10.0	2.5	6	2.1	-36	6.3	0.6	1.5
25	-2.0	13.8	-1.5	9.1	2.1	5	1.9	-31	5.7	0.6	1.3
30	-1.8	12.4	-1.4	8.2	1.8	5	1.8	-26	5.2	0.5	1.2
35	-1.6	11.1	-1.3	7.5	1.5	4	1.6	-22	4.8	0.4	1.0
40	-1.5	9.8	-1.2	6.7	1.2	3	1.5	-19	4.3	0.3	0.9
45	-1.4	8.5	-1.1	6.0	0.9	2	1.4	-16	3.8	0.3	0.8
50	-1.2	7.3	-1.0	5.2	0.6	2	1.2	-12	3.4	0.2	0.6

+11%



Conclusions

- Wool genetics are still paramount to profit on the Monaro. (both GFW and Micron)
- Be careful interpreting your wool:meat ratio!
- If you want growth...
 - focus on early growth with modest mature size.
- There is more environment than genetics in flocks with high weaning rates.
- Get genetics **and** pastures **and** stocking rate right to maximise sustainable profit.

