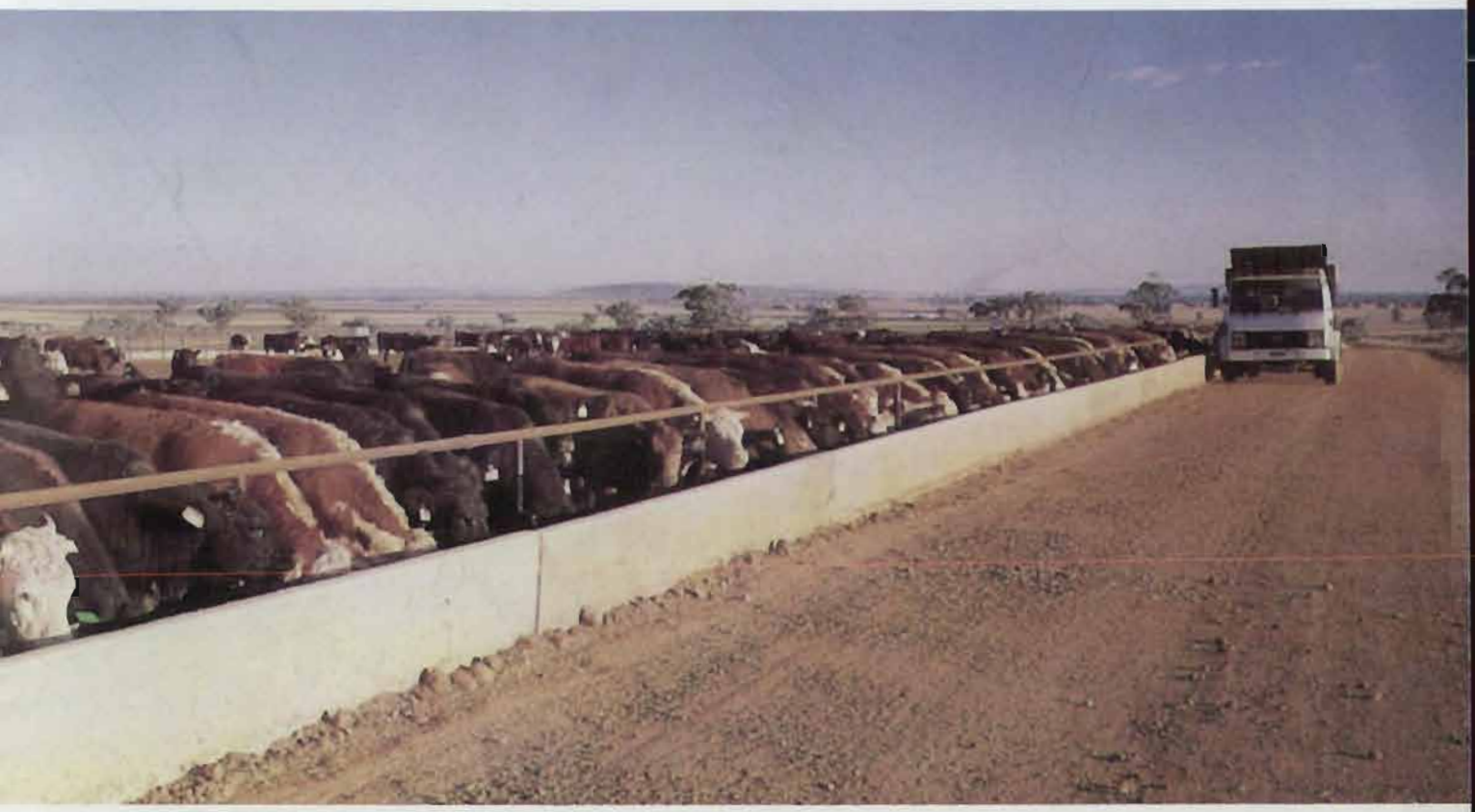
M.112

A Sire Evaluation System to Improve the Commercial Competitiveness of Australian Grain-Fed Beef



A SUMMARY OF THE
MEAT RESEARCH CORPORATION PROJECT M.112
March 1996

Meat
Research
Corporation

INTRODUCTION

The internationally-competitive nature of the food industry is now driving today's beef exporters away from simple commodity trading toward providing more specialised, quality assured products that can be brand-identified and promoted.

The catalyst for change in the beef industry has been increased access to key export markets in Japan.

Despite considerable investment being directed into upgrading plants to improve throughput; achieve higher quality standards and marketing brand name products by exporters, actually purchasing cattle that can perform predictably to required market specifications remains a major obstacle.

With the co-operation of nine commercial feedlots throughout eastern Australia, the Meat Research Corporation (MRC) established the project M.112 to investigate the reasons for the large variability that exists in feeder steer performance.

The project evaluated almost 5000 steers representing 371 beef sires purchased from 97 southern Australian beef herds. The performance of a further 7748 northern Australian steers has also been evaluated (these steers were not from known sires but represented 236 vendors and a range of breeds and crosses).

The project has highlighted the need for the Australian industry to improve feeder steer predictability with regard to growth, yield and product quality traits if it is to maximise opportunities in this expanding but tightly specified market.

KEY FINDINGS

The southern Australian sire line component of the study revealed a difference in commercial performance between the top and bottom 5% of individual steers, vendor lines and sire progeny lines within a breed of $270, $130 and $120 respectively when fed for 200 days (without allowing for feed intake effects).

The project highlighted that breed alone was no guarantee of performance. Breed differences were found in growth, meat yield and marbling traits (see Figures 4 and 5) while considerable differences also occurred between sires and vendors within a breed.

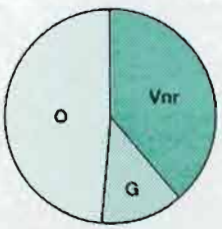
The proportion of the total variation measured in feedlot performance traits attributable to either genetic or vendor factors is shown in Figure 1.

Proportion of the total variation in feedlot performance traits attributable to genetic factors

FIG. 1

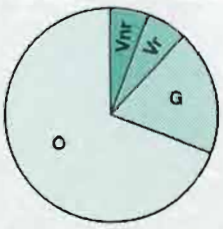
GROWTH PERFORMANCE

Background Phase



Vnr = 39% G = 12%
Vr = 0% O = 49%

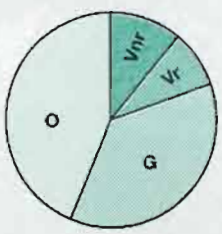
Feedlotting Phase



Vnr = 6% G = 19%
Vr = 6% O = 69%

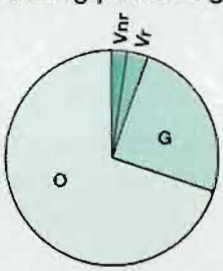
CARCASE YIELD TRAITS

Carcase Weight



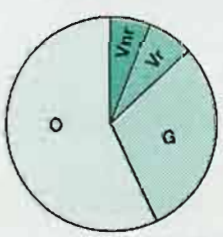
Vnr = 11% G = 38%
Vr = 7% O = 44%

Dressing percentage



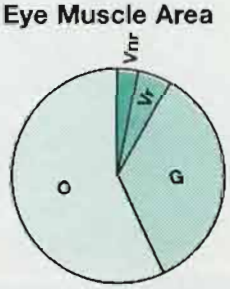
Vnr = 2% G = 25%
Vr = 3% O = 70%

P8 Fat Depth



Vnr = 6% G = 30%
Vr = 7% O = 57%

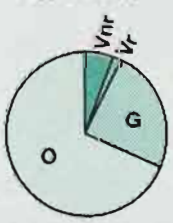
Eye Muscle Area



Vnr = 3% G = 35%
Vr = 5% O = 57%

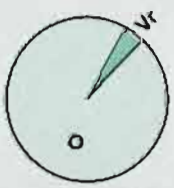
MEAT QUALITY TRAITS

Marbling



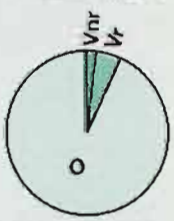
Vnr = 6% G = 25%
Vr = 1% O = 68%

Meat Colour



Vnr = 0% G = 0%
Vr = 4% O = 96%

Fat Colour



Vnr = 2% G = 0%
Vr = 4% O = 94%

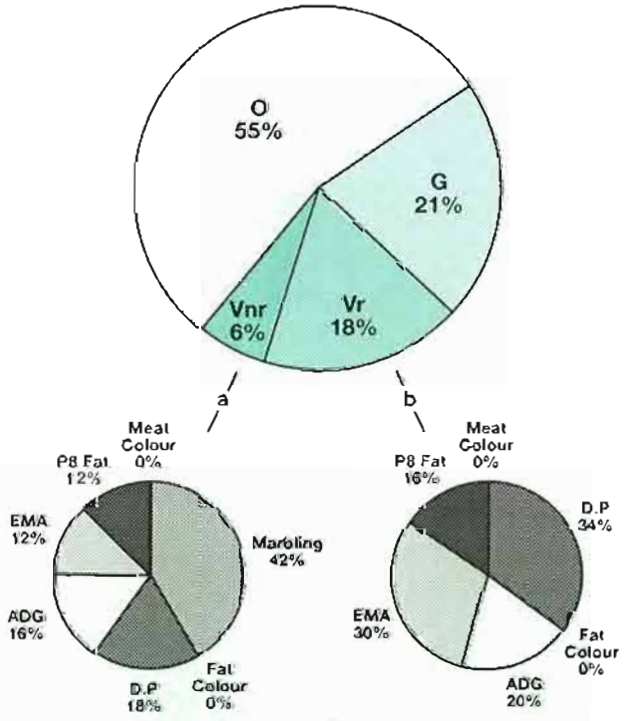
Vnr = Vendor factors (Not repeatable between intake groups)
Vr = Vendor factors (Repeatable between intake groups)
G = Genetic factors
O = Other environment factors

Their combined effects range from a low of 4% for meat colour to 56% for carcase weight as a proportion of the total variation measured in these traits.
These results are in contrast to the common industry misconception that when cattle have been managed and fed together since weaning, all differences measured during the feedlotting phase must be either vendor and/or genetic in origin.

After correcting for breed and intake group effects, 45% of the variation measured in the commercial performance between the top and bottom 5% of sires was attributable to the combined effects of feeder steer genetics and vendor (Figure 2).

FIG. 2

Proportion of the total variation in commercial feedlot performance between the top and bottom 5% of sires attributable to either genetic, vendor (repeatable and non repeatable) or other factors after correcting for breed and intake group effects.



a

PREMIUMS PAID FOR MARBLING (Current market)	
Marbling	42%
Dressing Percentage	18%
Feedlot A.D.G.	16%
Eye Muscle Area	12%
P8 Fat	12%
Meat Colour	0%
Fat Colour	0%

b

NO PREMIUMS PAID FOR MARBLING	
Marbling	0%
Dressing Percentage	34%
Feedlot A.D.G.	20%
Eye Muscle Area	30%
P8 Fat	16%
Meat Colour	0%
Fat Colour	0%

Vnr = Vendor factors (Not repeatable between intake groups)
Vr = Vendor factors (Repeatable between intake groups)
G = Genetic factors
O = Other environment factors

Undefined environmental factors accounted for the remaining variation. These results support the current policy by most feedlotters to purchase steers on the basis of the past performance of a vendor's line of steers. However, only part of this variation is repeatable when subsequent lines of cattle are purchased from the same vendor.

GENETICS

The key genetic traits contributing to the range in commercial performance recorded between the top and bottom 5% of sires (based on current price schedules being paid for grain-fed beef in Japan) are: Marbling (42%), feedlot average daily weight gain (18% after correction for feed intake), dressing percentage (16%), eye muscle area (12%) and P8 fat (12%).

The relative ranking of these genetic traits is sensitive to the processor price schedule and the accuracy of the predictive saleable meat yield equation used.

A high correlation (0.82) was found between the breeding indexes of M.112 Angus sires calculated for either the 'marbled' or 'non-marbled' markets. This meant 14 of the top 20 ranking bulls were the same for either market of the 226 Angus sires evaluated.

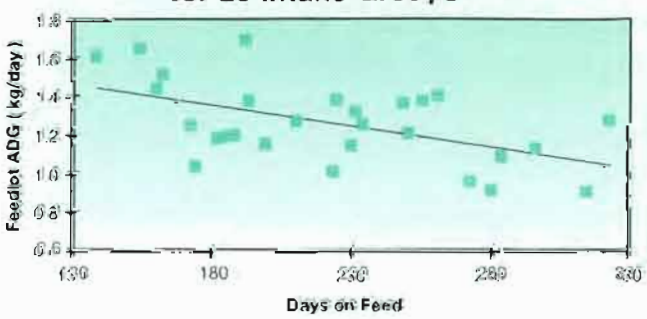
Steers included in the project experienced more uniform feedlot management than normal by being purchased, grain-fed and slaughtered in distinct management groups.

Nevertheless, feedlot management - and consequently feeder steer performance - did differ between intake groups due to factors such as ration, season and duration of feeding.

Increasing the duration of feeding increased marbling levels but depressed feedlot average daily gain and increased carcase subcutaneous P8 fat levels (Figure 3). Such effects need to be considered if valid genetic comparisons are to be made between sires or performance-based payment systems for feeder steers if the exercise is to be equitable for both producers and feedlotters.

FIG.

Effect of duration of feeding on feedlot average daily gain, P8 fat and marbling level for 28 Intake Groups



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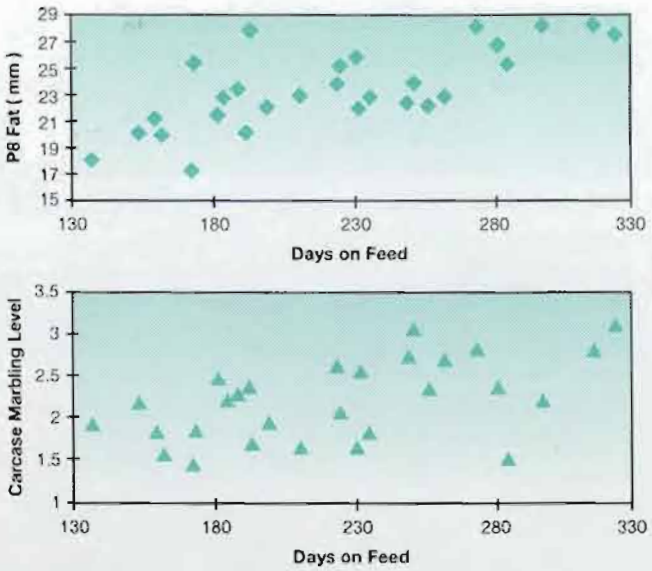


Southern Australian Sire Trials

The results were extremely encouraging for both producers and feedlotters targeting the Japanese market. Japanese specifications for grain-fed beef can be more precisely and cost-efficiently achieved utilising both breed differences and genetically-superior sires within a breed. Table 1 details the breeds, vendors and sires evaluated in the project.

Table 1:

Summary of breed, sire line and vendor composition of the trial steers

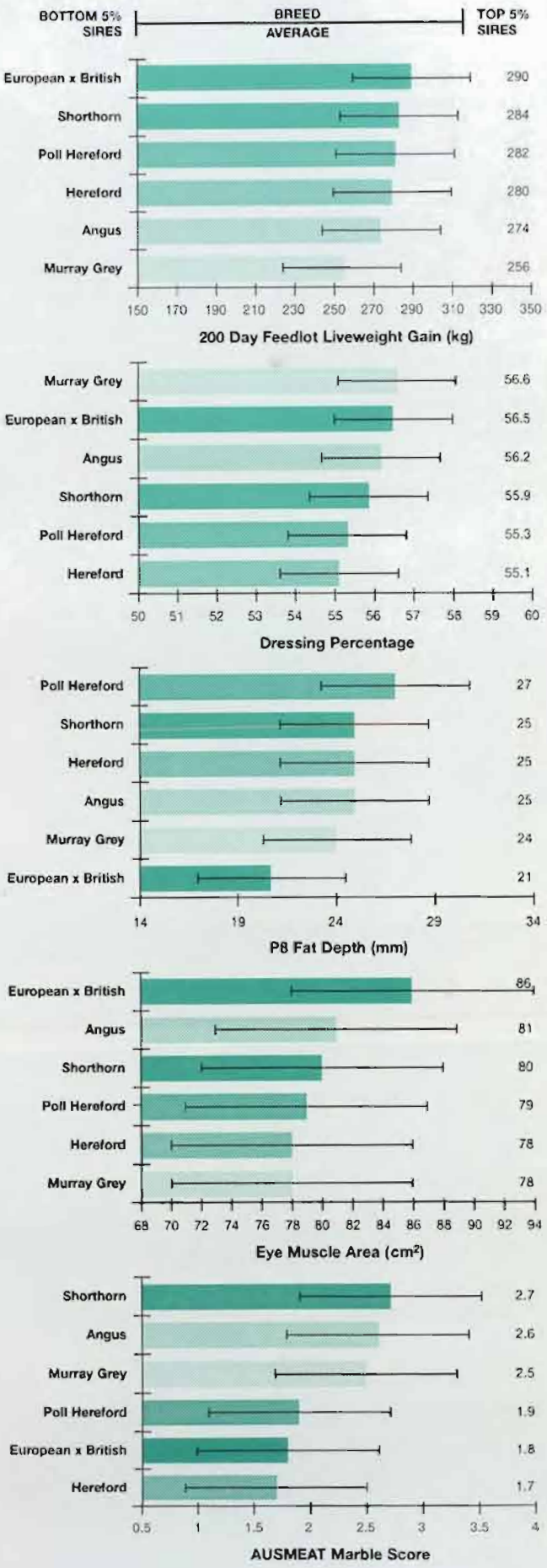
Breed	No. of sire lines	No. of vendors	Total No. of steers
Angus	226	40	2746
Hereford	49	19	598
Poll Hereford	24	7	291
Murray Grey	34	10	543
Shorthorn	22	9	234
European-cross	16	11	182
Total	**371**	**97**	**4594**

BREED EFFECTS

Breed effects were significant for all traits except meat colour. Figure 4 summarises the comparative performance of the major breeds evaluated in the trial for growth and carcase traits. However, when interpreting the breed group differences found in this study, the large variation between vendors within a breed must be remembered.

FIG. 4

Southern Australian sire trials. Breed and sire effects on growth and carcase traits.



There were no breed differences in entry weight at the commencement of the backgrounding phase of the trial. During this phase, Shorthorn steers had the highest average daily gain and Angus and Murray Grey steers the lowest. European-cross, Hereford and Poll Hereford steers were intermediate.

During the feedlotting phase, European-cross steers gained weight faster than Murray Grey steers by 0.17 kilograms a day. Shorthorn, Poll Hereford, Hereford and Angus steers were intermediate in feedlot growth rate performance. At the time of exit, European-cross steers were 54kg heavier than Murray Grey steers.

While feedlot growth rate is an important indicator of commercial performance, it has deficiencies if interpreted in isolation. Feedlotters principally sell their product on a carcase weight basis either bone-in or boneless.

Consequently, if returns are to be maximised, it is essential that the saleable component of the liveweight gain during feeding is also maximised. Dressing percentage at slaughter, muscle and fat content of the carcase at boning are the key determinants of ultimate saleable meat yield.

European-cross steers had the highest dressing percentage at slaughter and Hereford steers the lowest Murray Grey, Angus, Shorthorn and Poll Hereford steers were intermediate.

Despite some re-ranking of breeds with regard to dressing percentage, all breeds ranked in the same order for final carcase weight as they did for feedlot exit weight. At slaughter, the carcase weight of European-cross steers was 30kg higher than Murray Grey steers.

European-cross steers were six millimetres leaner at the P8 site than Poll Hereford steers. Murray Grey, Angus, Hereford and Shorthorn steers were intermediate. European-cross steers had 8cm^2 more rib-eye muscle area at the 10-11th rib site than Murray Grey and Hereford steers. Angus, Shorthorn and Poll Hereford steers were intermediate in carcase rib-eye area.

Using an industry-derived yield equation, it was estimated that the European-cross steers had 22kg higher saleable meat yield than Murray Grey steers as a consequence of their carcases being heavier, leaner and having larger rib-eye area.

Intra-muscular marbling level and meat and fat colour are all important carcase traits influencing Japanese consumer acceptability and price.

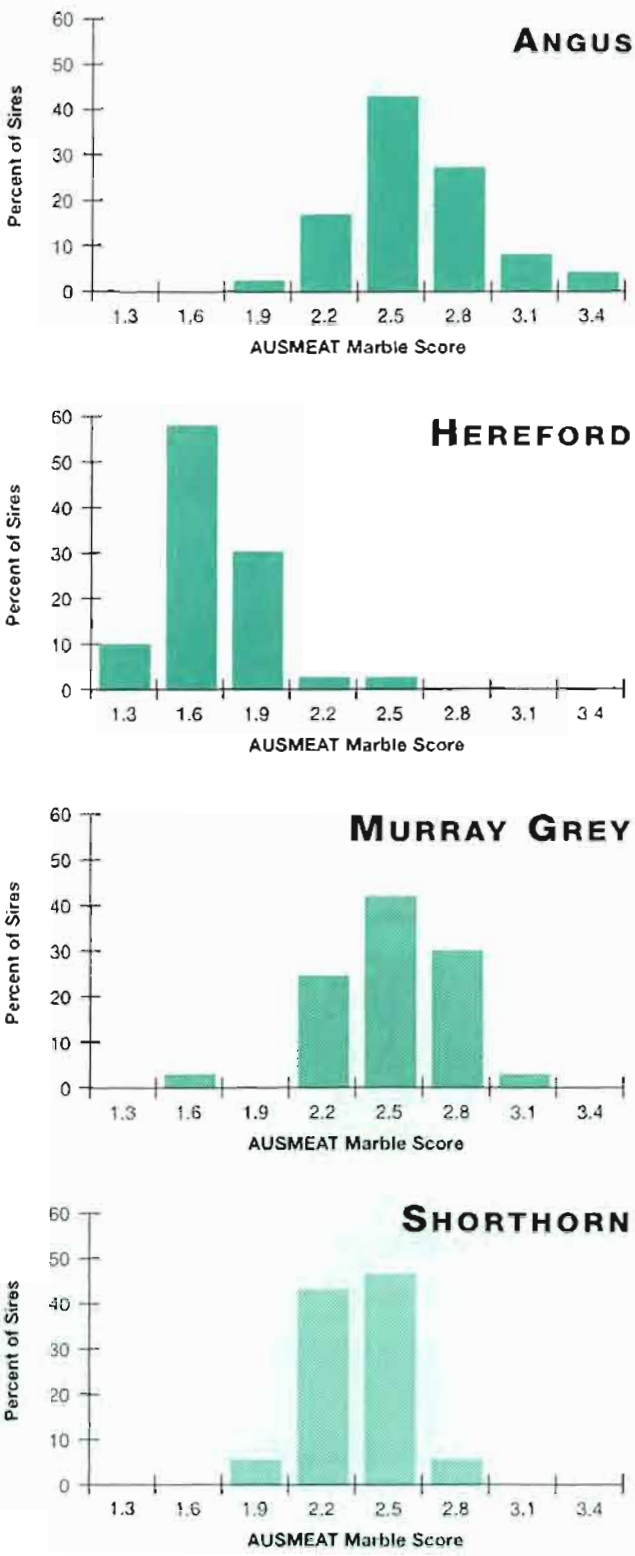
Breed differences were evident in intra-muscular marbling level. Shorthorn, Angus and Murray Grey steers out-performed Hereford, Poll Hereford and European-cross steers with regard to marbling level attained. No breed differences existed in meat colour.

Poll Hereford steers consistently had the whitest fat of the six breeds, but this advantage was of only minor commercial significance.

GENETIC AND VENDOR EFFECTS

Breed alone was no guarantee of performance. Considerable differences existed between sires and vendors (such as property of origin within a breed for most traits). Figure 5 illustrates the marbling differences between sires whose steer progeny were lot-fed for 200 days.

FIG.



Clearly, the current industry practice of relying upon breed alone to achieve a moderate and consistent level of marbling will not succeed because there is variation existing between sires within breeds in this moderately heritable trait.

A summary of all sires evaluated is provided in Tables 5,6,7,8 and 9 (see pages 14 to 25). The genetic performance of each sire is estimated for feedlot growth, carcase yield and marbling traits standardised to a 200-day feeding program. These traits are expressed in estimated breeding value (EBV) format from the breed average. The EBVs are not BREEDPLAN EBVs. Leading sires for each trait (top 5% based on their M.112 EBVs) are provided for breeds with 100 or more sires represented.

Northern Australian Vendor Trials

The 7748 steers bred in northern Australia were grain-fed for 150 days and assessed for the Japanese market in two Queensland commercial feedlots.

The northern Australian steers were not from known sires, but represented 236 breeding herds from Queensland, NSW and the Northern Territory. Table 2 summarises the range of breed types and their crosses evaluated in the trial.

Table 2:
Breeds represented in study

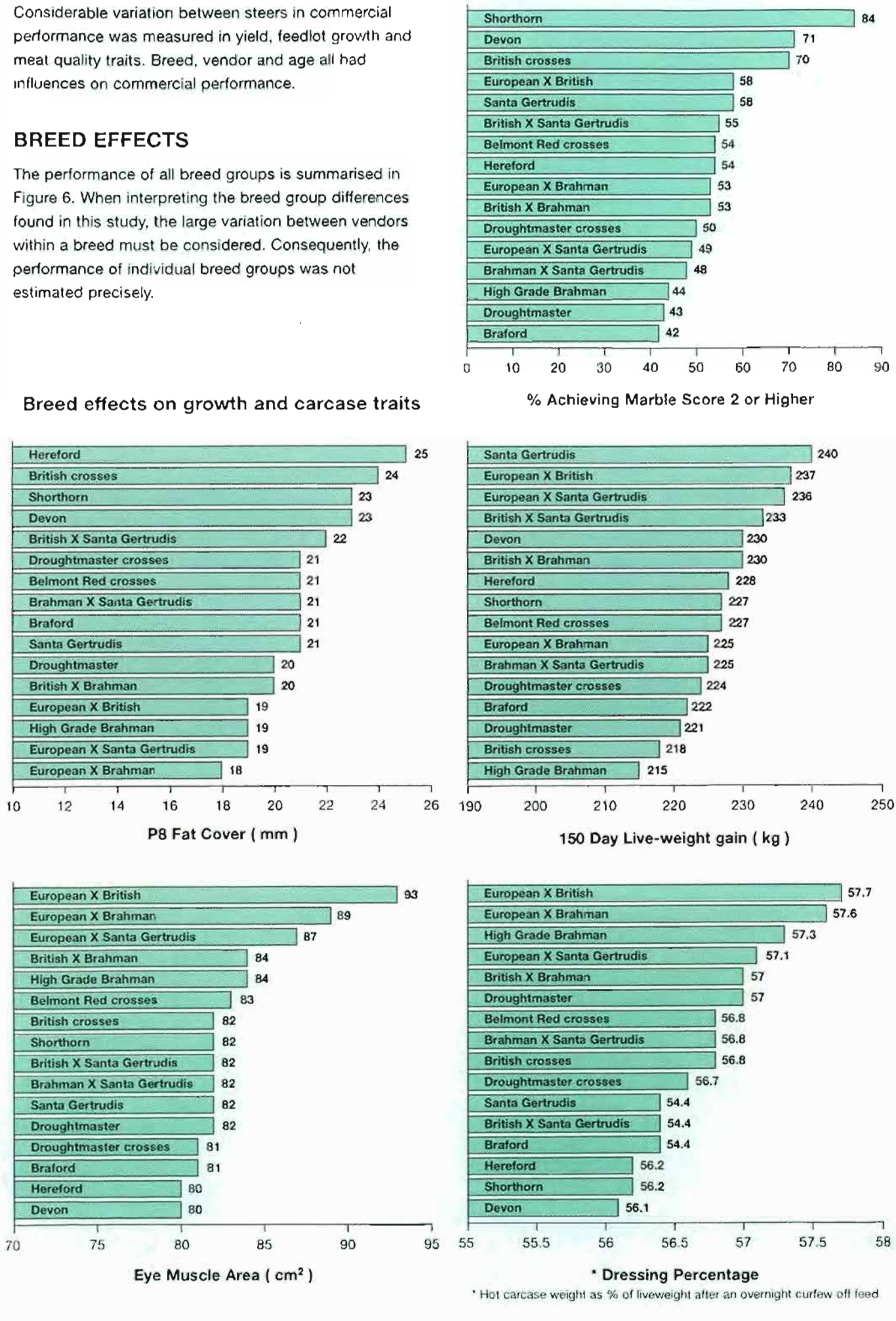
Breed Goup	No. of Steers	No. of Vendors	Breeds Represented
Hereford	1101	40	
Shorthorn	312	19	
Devon	299	10	
British Crosses	203	17	Angus X Hereford Devon X Shorthorn Hereford X Shorthorn Murray Grey Murray Grey X Hereford Shorthorn X Angus Shorthorn X Devon South Devon X Devon
European X British Crosses	659	21	Limousin X Shorthorn Limousin X Devon Charolais X Hereford Charolais X Shorthorn Salers X Devon Maine Anjou X Devon Maine Anjou X Shorthorn Red Angus - Limousin X Beefmaker
Santa Gertrudis	1563	61	
Braford	633	22	
Droughtmaster	266	10	
Droughtmaster Crosses	90	8	Droughtmaster X Braford Droughtmaster X Shorthorn
Santa X Brahman	208	16	Santa X Brahman Brahman X Santa
Santa X British	661	44	Santa X Devon Santa X Hereford Santa X Angus Santa X Shorthorn
Brahman X British	310	18	Brahman X Shorthorn Brahman X Santa/Hereford Brahman X Santa Brahman X Hereford Brangus Brangus X Hereford Brahman X Santa/Shorthorn
European X Santa	180	17	Limousin/Santa Salers/Santa Simmental/Santa Charolais/Santa Maine Anjou/Santa Charolais/Simm/Angus/Santa
European X Brahman	692	26	Brahman/Simmental X Hereford Brahman/Simmental X Santa Charolais/Brahman X Charolais Charolais/Simmental X Brahman Charolais/Brahman Salers/Brahman Simbrah Charbray Simmental/Brahman Simmental/Santa X Droughtmaster
High Grade Brahman	331	15	High (>70%) Brahman content
Belmont Red crosses	194	6	Belmont Red/Chianina Belmont Red/Santa Belmont Red/Shorthorn Belmont Red/Shorthorn X Droughtmaster

Considerable variation between steers in commercial performance was measured in yield, feedlot growth and meat quality traits. Breed, vendor and age all had influences on commercial performance.

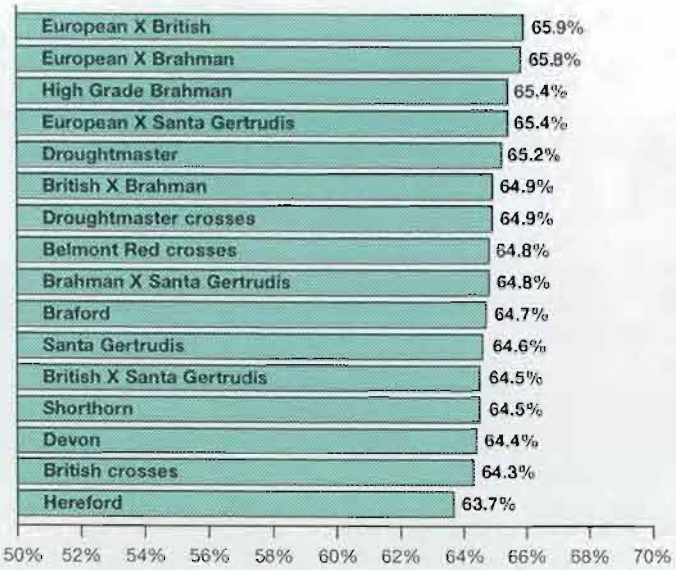
BREED EFFECTS

The performance of all breed groups is summarised in Figure 6. When interpreting the breed group differences found in this study, the large variation between vendors within a breed must be considered. Consequently, the performance of individual breed groups was not estimated precisely.

FIG. 6 **Breed effects on growth and carcase traits**



* Hot carcase weight as % of liveweight after an overnight curfew off feed



Estimated Saleable Meat Yield %

The average feedlot daily gain was 1.50kg/day. Santa Gertrudis steers had the highest growth performance while Brahman steers the lowest.

Breed group differences occurred in carcase traits determining saleable meat yield dressing percentage, P8 fat depth and eye muscle area. Using an industry-derived yield equation, it was estimated the average saleable meat yield as a proportion of carcase weight was 64.9%.

The combined traits of carcase weight, P8 fat depth and eye muscle area were used in this equation which predicted that only 45% of the steers achieved the preferred boning room meat yield of 65% or higher.

The use of either European bulls on either British or Bos Indicus cows increased both carcase weight and muscling while reducing carcase subcutaneous fat levels. As a consequence, European/British and European/Brahman-cross steers were estimated to achieve 2.2% and 2.1% respectively higher saleable meat yields than Hereford steers. Other breed groups were intermediate.

Meat and fat colour levels attained by all breed groups after 150 days on grain were highly acceptable.

Breed group differences in marbling score were very significant from a commercial perspective. When expressed as the proportion of steers attaining an Aus-Meat marble score two or higher (the level required to meet the Japanese B2 market specification) Shorthorn steers (84%) outperformed Brahman (44%), Droughtmaster (43%) and Braford (42%) steers with other breed groups intermediate.

VENDOR EFFECTS

As with the southern Australia sire trials, breed alone was no guarantee of performance. Considerable variation in performance existed between vendors within a breed. For example, feedlot growth performance varied by up to 0.56kg/day (37%) between the top and bottom 5% of vendors after correcting for pen and breed effects.

Table 3 provides an estimate of the commercial value of the range in performance for each trait between the top and bottom 5% of vendors. Southern feedlot-based sire line trials have shown the variation in feedlot average daily gain due to vendor is much lower when vendor lines have been backgrounded together prior to the feedlotting phase.

Table 3:

Estimated range in commercial value between the top and bottom 5% of vendors for growth and carcase traits ($/Steer)

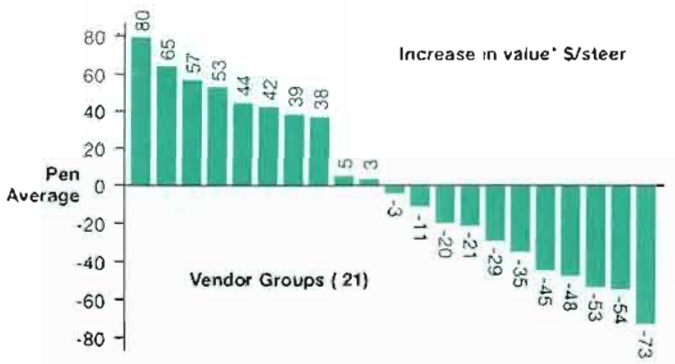
Trait	Vendor Range	Production Gain (kg)	Product Value ($/kg)	$/hd Advantage (gross)
150 Day Liveweight Gain	84 kg	84 kg LWT	$1.60/kg	$134
Dressing Percentage	2.2%	15.1 kg CWT	$2.80/kg	$42
p8 Fat Depth	8 mm	6 kg SMY	$4.20/kg	$25
Eye Muscle Area	12 cm^2	5.5 kg SMY	$4.20/kg	$23
Marbling Level	0.8 score	-	$0.50/kg/ fullset/ marble score	$68

Additionally, only part of the vendor effect is constant from one year to the next. The predictability of feedlot growth performance is substantially enhanced if feedlotters had previous information on both the genetics and the vendor of the steers to be purchased.

Figure 7 illustrates the range in commercial performance estimated between 21 vendors of Santa Gertrudis steers fed at Beef City feedlot in 1994.

FIG. 7

Range in estimated commercial performance between vendor lines of Santa Gertrudis steers grain fed for 150 days



* Based on feedlot growth performance, estimated boning room yield and product quality grade.

AGE EFFECTS

Feeder steer age (assessed by dentition) had a significant effect on feedlot growth and some carcase traits. Steers with milk teeth were lighter at feedlot entry but grew by 6% (or 0.09kg/day) faster than steers with four permanent teeth. Steers with two permanent teeth erupted were intermediate in their growth performance. There was no significant difference in feedlot exit liveweight between the different age groups of the steers.

Age at entry had no measurable effect on dressing percentage or eye muscle area. It did have a small (but significant) effect on P8 fat depth with milk teeth steers 1mm leaner than two and four-teeth steers at slaughter.

Age at entry had no measurable effect on meat colour, however it did have a small effect on both fat colour and marbling level attained. Four-teeth steers achieved a 0.14 higher marbling score than milk teeth steers but had slightly more yellow (0.06 score) fat colour. Two-teeth steers were intermediate.

PERFORMANCE PAYMENT SYSTEMS FOR FEEDER STEERS

There is a general agreement amongst processors and producers on the principle of paying producers according to the yield and quality attributes of their cattle. However, conversion of this principle into a practical trading system that is acceptable to both parties is a difficult task.

The results of a performance payment trial involving 1500 steers purchased from 44 producers and conducted by Australia Meat Holdings (AMH) Pty Ltd at Beef City are presented in Table 4.

The role of the Meat Research Corporation in this trial, represented by Stuart Baud, was one of an independent auditor for the performance figures and used as the basis for calculating the performance bonus payments made to

Table 4:

Performance of the trial steers in relation to bonus payment category

Bonus Category	Top 10%	10.1% -20%	20.1% - 30%	30.1% -40%	40.1% -50%	50.1% -60%	60.1% -70%	70.1% -100%	Trial Av.
Performance Bonus cents/kg	80	70	60	50	40	30	20	0	
Total $ Bonuses Paid	51597	45262	39234	32671	26067	19533	12914	0	
No. of Steers	151	151	151	151	151	151	151	450	
Av. Bonus $/Steer	342	300	260	216	173	129	86	0	
Feedlot Performance									
Entry weight	428	428	433	433	432	431	428	434	431
Exit weight	729	678	666	662	663	667	662	662	672
Feedlot ADG (kg/day)	1.79	1.49	1.39	1.36	1.38	1.40	1.39	1.36	1.42
Carcase Traits									
Carcase Wt (kg)	406	390	383	378	381	385	387	375	384
Dressing Percent	55.7	57.5	57.5	57.1	57.5	57.7	58.5	56.6	57.3
P8 fat (mm)	17	21	23	23	23	20	20	25	22
Marbling Level 10/11	2.5	2.2	2.2	2.0	1.7	1.3	1.1	1.0	1.6

participating vendors.

The performance payment schedule was developed by AMH livestock management and was conveyed to all potential participants in writing prior to commencement of the trial. The payment schedule guaranteed bonus payments to the top 70% of all steers completing the trial rather than pay bonuses only to those steers achieving the company's 'preferred specifications'.

AMH livestock management considered the former option would encourage more producers to participate.

The payment schedule was as follows:

1) All steers complying with the feedlot induction specifications received an initial payment of $1.00 per kilogram payable within AMH's normal trading terms (ie. within 10 days of delivery).

2) A performance payment paid within 14 days of slaughter of the last lot within the trial. The performance payment made based on individual animals was paid as follows:

Top	10% of animals	Additional 80c/kg
Animals between top	10.1% to 20%	Additional 70c/kg
Animals between top	20.1% to 30%	Additional 60c/kg
Animals between top	30.1% to 40%	Additional 50c/kg
Animals between top	40.1% to 50%	Additional 40c/kg
Animals between top	50.1% to 60%	Additional 30c/kg
Animals between top	60.1% to 70%	Additional 20c/kg

Animals which fell into the bottom 30% on performance did not attract an additional payment. The additional payment was based on the individual liveweight recorded at feedlot induction with the performance ranking of individual steers calculated according to the formula specified.

These results highlight the variation in performance that does exist in feeder steers for feedlot growth performance, carcase yield and meat quality traits and its commercial value to the industry. In this trial, the top 10% received $342 a head more in performance bonuses than the bottom 30% or steers.

This clearly demonstrates that from both feedlotter and producer perspectives there is tremendous loss of opportunity to add value occurring within the industry in regard to the Japanese grain-fed beef market.

CONCLUSIONS

The beef cattle feedlot industry is no different to any other intensively-fed livestock industry. Without a deliberate policy of improving the genetic merit of the livestock on feed, the cost competitiveness and ability to achieve end-user specifications, market share will be eroded.

To date, the beef industry has lagged behind other intensively-fed livestock industries whose products share the same retail display cabinets. Apart from the biological handicaps that slow the rate of genetic progress in the beef industry, progress will remain below its potential until:

1) Feedlotters implement performance-based payment systems which reward those producers breeding superior feeder steers.

2) Industry genetic evaluation schemes enable stud and commercial breeders to more accurately breed, identify and purchase animals with the desired growth and carcase traits for the Japanese grain-fed beef market.

SIRE ESTIMATED BREEDING VALUE TABLES

Table 5: M112 Sire feedlot EBVs - Angus

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Ballanee Dambuster	13	24	0	-1.1	-7	2.2	0.1	2.2
Ballanee J84	8	251	-2	0.3	1	-1.6	-0.3	-1.6
Ballanee Patriot 70	8	180	22	0.2	14	0.4	0.5	4.6
Ballangeich 86/52	13	19	11	0.5	9	-1.3	0.2	-0.5
Ballangeich 88/363	12	218	-21	-0.1	-13	-0.6	-0.3	-4.8
Ballangeich B144	12	18	9	-0.5	2	3.4	-0.6	-2.7
Ballangeich K261	10	327	-18	0.5	-7	-2.6	0.0	2.7
Ballangeich K357	9	326	18	-0.2	9	-0.2	-0.1	0.1
Ballangeich L117	16	342	-4	0.3	0	0.5	0.2	5.4
Barwidgee Elite 61	15	16	-4	0.1	-2	-3.4	-0.1	1.3
Barwidgee J222	10	287	3	-0.1	1	3.1	0.1	-3.5
Barwidgee Past Co 8663	24	57	-6	0.2	-2	-1.9	0.0	2.4
Barwidgee Past Co E78	12	56	-9	0.2	-4	1.4	0.3	2.0
Beniagh E85	12	61	20	0.1	12	0.0	-0.3	0.8
Beniagh H1	11	200	6	1.0	9	-0.8	0.1	-1.4
Blackrock Roscoe J48	12	303	31	0.1	18	-0.2	-0.1	-3.1
Blackrock Roscoe K50	7	361	18	0.0	10	1.2	-0.1	-3.1
Blackwood 8/87	12	312	7	-0.4	1	0.8	-0.1	-2.6
Boorahman G64	10	311	-8	0.7	0	2.9	0.0	1.7
Bronmar Beau B6	7	162	12	-0.1	6	0.3	-0.3	-1.4
Brookfield Park D16	12	271	0	-0.3	-2	-2.7	0.2	4.6
Brookfield Park Zoro B67	24	126	17	-0.3	8	4.6	-0.3	1.7
Cobble Pond Yankee	10	58	-8	-0.9	-10	-2.9	0.7	-0.6
Colleen Powerplay E32	12	210	-1	-0.1	-1	-0.4	-0.3	1.2
Coolana Poundmaker B27	10	17	-2	-0.3	-3	-2.3	0.7	-1.9
Farrer Hyscore H31	16	163	13	-0.2	6	-0.6	-0.3	0.0
Forres Hamlet H74	10	166	21	-0.5	9	-0.4	-0.1	-2.0
Forres Hymen H108	10	165	15	0.3	10	-2.7	-0.1	1.2
Forres Jackpot J13	9	164	18	0.0	10	-2.6	-0.3	-3.8
Four M C8	15	2	-4	-1.1	-9	1.3	-0.1	-1.3
Four M Mr. A	15	1	-16	1.1	-2	-1.0	0.0	1.2
Glen Bold Dameron J46	14	336	1	-0.7	-4	-2.1	0.2	-3.4

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Glen Bold Hallmark H13	36	195	42	0.6	28	0.5	0.6	-0.2
Glen Bold Houston F26	35	51	-7	0.1	-4	0.5	-0.1	0.9
Glen Bold Jackson G03	26	194	-11	0.3	-4	-0.8	-0.1	1.1
Glen Bold Mandrake D11	12	53	-26	-0.7	-19	0.2	0.0	-0.3
Glen Bold Mendana D75	26	52	-9	-1.0	-11	0.5	0.0	-4.6
Glen Bold Powerpack E27	17	193	-2	1.2	6	2.7	0.0	0.9
Glen Bold Rosco H11	9	198	21	0.3	14	0.9	0.3	-3.8
Glen Bold Trudeau C06	12	220	7	-0.9	-2	1.5	0.3	-1.8
Glenaroua G124	13	197	0	-0.8	-5	0.4	-0.3	2.7
Glenaroua G39	9	224	-24	-1.0	-19	0.5	-0.2	3.8
Glenaroua H90	18	196	19	0.2	12	2.3	-0.1	0.4
Glendowner Evolution H28	7	212	2	-0.4	-1	2.4	0.6	-3.8
Glendowner Navigator H31	10	213	-8	0.0	-4	-2.6	-0.5	-4.1
Glendowner Nth'n Light G49	17	214	8	-0.1	4	2.0	-0.1	4.2
Gowrie 192	7	245	-8	-0.1	-5	-1.5	0.2	-3.3
Hazeldean 8717	21	234	24	0.9	20	4.5	-0.2	0.2
Hazeldean 8736	21	233	5	0.2	4	1.7	-0.2	1.8
Hazeldean 8761	19	235	-8	-0.3	-6	-2.4	0.0	6.1
Hazeldean 879113	11	231	13	-0.2	6	0.3	-0.5	-3.0
Hazeldean 8797	7	232	-10	-1.3	-14	1.7	0.2	-2.4
Hazeldean 88102	14	184	-14	0.4	-6	3.3	-0.6	-0.3
Hazeldean D56	9	230	5	-0.3	1	-0.1	-0.1	-2.4
Hazeldean G19	30	123	-6	-0.7	-8	4.1	-0.3	-0.9
Hazeldean H14	8	183	1	0.2	2	-3.0	0.2	4.6
Hazeldean J10	14	304	-6	-0.3	-5	-2.1	-0.1	1.6
Hazeldean J19	9	305	-9	0.2	-4	-2.1	0.0	2.3
Hazeldean J30	7	306	-7	1.4	5	-3.2	0.0	4.3
Hazeldean J372	11	297	-12	-0.3	-9	1.0	-0.2	-1.0
Hazeldean J399	11	307	-9	-0.4	-8	-1.0	0.4	1.8
Hazeldean J415	16	300	-11	-0.3	-8	-0.4	-0.2	-3.7
Hazeldean J419	9	301	12	0.0	7	0.7	-0.1	-0.2
Hazeldean J451	23	296	-4	0.0	-2	-0.6	0.1	0.5
Hazeldean J461	10	308	1	-0.7	-4	2.5	0.1	-3.6
Hazeldean K110	12	299	8	-0.9	-1	1.6	0.0	-2.8
Hazeldean K473	15	358	14	0.0	8	2.4	0.2	-1.4
Hazeldean K583	10	362	-16	-0.2	-10	-1.3	0.2	4.0

Know your market - Japanese gra

HIGH QUALITY CHILLED GRAINFED BEEF FOR JAPAN STARTS WITH YOU

Retailing: Japanese consumers place great emphasis on product presentation and quality: "eye appeal is buy appeal".

Restaurant: The food service industry is another fast - growing segment of the market.

YOU NEED TO MEET THESE SPECIFICATIONS

✓ ✓ ✗

White fat - AUSMEAT Score 0,1 or 2.

Carcase weight

300 to 400 kg

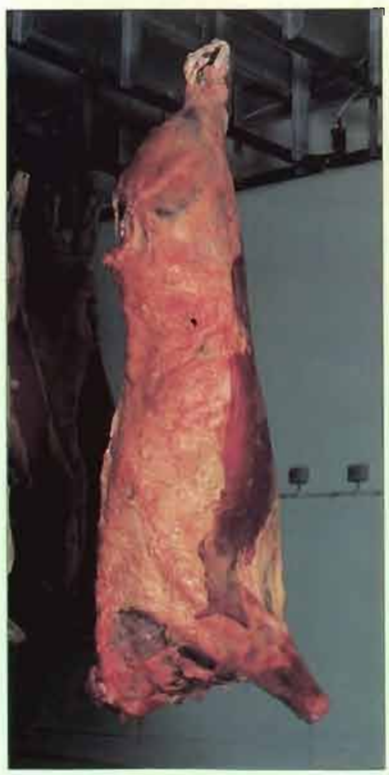
Muscle Shape

C or better

Age

2 years or younger preferred.
(0, 2 or four teeth)

Maximum 3 years
(6 teeth)



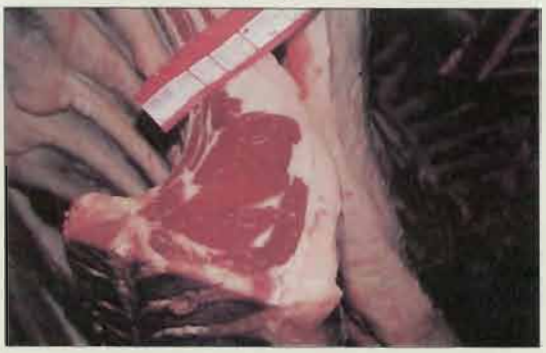
Yellow fat

fed product quality specifications

MARBLING

Marble Score: 2 or higher preferred - long fed programs

Unacceptable - either short or long fed programs.

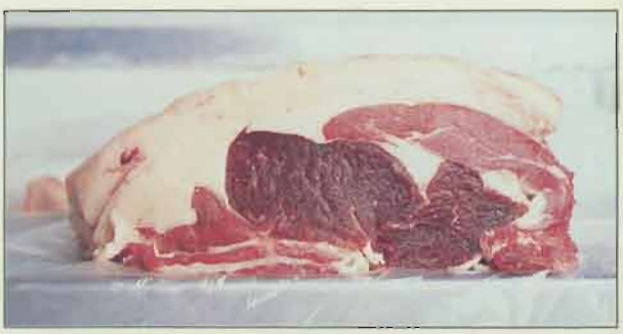


Marble Score: 1 acceptable - short fed programs.

When grain feeding extends beyond 120 days (short fed) marbling (AUSMEAT score 2 or higher) is required.

MEAT COLOUR

Meat Colour : Bright red
AUSMEAT score 1B, 1C or 2



Dark

YIELD

Fat Cover: 12 to 20mm at the P8 site

Overfat

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Hazeldean K584	11	363	-34	-0.1	-20	-3.7	-0.1	1.1
Hazeldean K597	10	364	-24	-0.5	-16	-2.2	0.0	-0.4
Hazeldean K614	11	359	9	0.3	7	0.2	0.2	-6.5
Hazeldean K650	15	356	0	0.4	3	-1.4	0.0	5.8
Hazeldean K670	13	357	8	1.2	12	2.5	0.1	2.2
HB 0719	15	337	-25	2.2	0	1.6	-0.2	-1.6
HB J19	19	338	9	-0.3	3	2.9	-0.1	-2.4
HB K186	27	339	0	-0.4	-3	-0.6	-0.3	3.4
HB L24	7	343	7	-0.3	2	1.5	0.0	1.8
Innesdale Jarrah J141	19	279	9	0.2	6	-1.9	-0.2	-1.3
Innesdale Justice J101	19	252	-11	0.3	-4	0.0	-0.2	0.8
Innesdale King F123	10	288	14	-0.8	3	-0.2	-0.3	2.5
Kaharau Zulu 851	15	140	-8	-0.1	-6	-0.1	-0.1	1.3
King Country Massive U68	11	85	-15	-0.4	-11	0.4	-0.2	-3.4
Kingfield Kristan K16	11	388	-27	0.6	-12	-4.1	0.4	1.5
Massive 831 of Kaharau (NZE)	14	86	-13	-0.4	-10	0.4	-0.1	-0.3
Millah-Murrah F39	22	270	4	0.1	3	0.7	0.4	-2.7
Millah-Murrah J59	8	382	-13	-0.4	-10	0.2	-0.2	-1.3
Millah-Murrah J60	12	383	13	0.9	13	1.2	-0.1	-0.7
Millah-Murrah J76	10	381	-3	0.1	-2	-0.4	0.6	-1.3
Milong H12	18	203	4	0.3	5	2.6	-0.1	1.0
Mordallup King B72	10	302	0	-0.5	-3	3.8	0.0	-1.8
Nanena 916	16	386	0	0.6	3	-0.2	-0.1	-0.5
Narangi Quatic	8	285	-5	-0.2	-4	-2.8	0.5	2.0
Narrangullen 0014	13	255	10	0.9	11	1.7	0.3	-1.8
Narrangullen 0024	12	249	-8	0.6	-1	3.4	0.3	-4.8
Narrangullen G13	7	371	26	-0.4	12	0.4	0.0	2.7
Narrangullen G5	8	372	10	-0.2	5	0.0	-0.2	3.3
Narrangullen H1	8	369	7	-0.6	0	0.8	-0.3	-5.3
Narrangullen H13	9	370	-7	-0.9	-10	-2.2	-0.2	0.7
Noonee Everist	14	97	-6	0.1	-3	-2.8	-0.2	-0.6
Paramount Ambush USA 2172	9	323	-7	0.3	-2	-1.1	0.2	2.5
Pinecreek Mr Premiere G34	22	96	-12	-0.3	-9	-2.2	0.1	1.1
Pinecreek Mr Premiere H59	9	208	14	0.0	8	-1.1	0.3	2.1
Pinecreek Superstar	9	95	-17	-0.7	-14	1.3	0.2	-2.6
Pinora Destiny D41	14	29	0	-0.1	-1	-3.2	-0.2	3.1

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
QAS Traveler 23-4 (USA)	13	225	-11	0.8	-2	-1.0	0.0	-4.7
R A Powerplay 501 (USA)	27	227	9	-0.2	4	-1.3	0.3	0.7
Ranui Director (Imp NZ)	21	142	-27	0.2	-14	-1.6	-0.2	4.3
Rito 5H7 (USA)	18	219	-6	0.6	1	-2.6	0.0	-3.8
Silveiras Cartel (Imp USA)	12	217	13	0.7	12	-0.1	-0.1	1.4
Silveiras Stockbroker (USA)	22	59	5	-0.1	2	-0.8	-0.3	1.6
Six Plus F102	7	247	2	0.2	3	0.8	-0.2	-1.1
Six Plus Wampum	9	248	17	0.9	16	-2.4	-0.1	2.5
Sparta Bordeaux H67	29	145	-2	1.5	8	0.8	0.3	2.8
Sparta Creation 36/81	31	143	-4	-0.2	-3	0.7	0.4	-1.7
Sparta E49	49	25	8	-0.1	4	1.4	0.3	3.4
Sparta Tornado B39	25	144	-6	0.0	-3	-3.2	-0.1	-1.5
Springwell 52	10	105	-14	-0.3	-10	0.4	-0.1	-2.9
Springwell 637	10	106	0	0.8	5	-1.0	-0.2	0.0
Springwell 862	12	156	22	-0.9	6	1.1	0.1	-0.6
Stonebrook X128	14	121	-7	-0.3	-5	0.1	-0.5	-1.3
Tadgroup D318	11	71	7	0.2	5	-1.0	0.3	-0.3
Tadgroup E447	10	72	-4	-0.3	-4	0.1	-0.5	-0.4
Talooby Domino Lad	20	128	0	0.2	1	3.1	0.1	-0.1
Talooby Embassy E12	22	130	11	-0.5	3	0.4	0.0	-4.1
Talooby Falcon F19	26	129	0	0.4	3	-0.8	0.1	0.0
Talooby Finder F8	13	127	-11	-0.6	-10	-1.0	0.3	-4.2
Te Mania Campbell	8	228	14	-0.5	4	2.5	-0.3	-3.6
Te Mania Demon	9	221	-1	-0.6	-5	0.0	-0.3	-1.3
Te Mania E166	11	313	7	0.4	7	-0.6	-0.2	3.0
Te Mania Emphatic	15	6	1	0.2	2	1.3	-0.4	-1.5
Te Mania Esteem E158	14	5	7	-0.3	2	0.9	0.6	3.6
Te Mania Fanatic F100	14	317	3	0.4	4	1.9	-0.1	3.5
Te Mania Farlap	19	226	-3	0.2	0	1.9	-0.3	3.3
Te Mania Farthing F151	13	122	10	0.4	9	-0.9	-0.2	4.0
Te Mania Hackle H95	14	207	9	1.8	17	1.5	0.7	9.6
Te Mania Hall H14	10	139	-2	-0.4	-3	3.4	-0.1	-6.2
Te Mania Harvard	7	309	5	-0.9	-3	-0.3	-0.4	-1.5
Te Mania J150	10	334	5	-0.6	-1	4.0	-0.1	-7.5
Te Mania Jock J71	32	316	13	0.4	10	-1.9	-0.6	8.6
Te Mania Joel J31	24	278	7	0.5	7	2.6	0.2	3.2

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Te Mania Joseph J123	9	277	28	-1.1	8	0.2	0.0	-1.5
Te Mania Judo J53	30	335	-2	-0.1	-2	-1.8	0.3	-1.2
Te Mania Kirkman K254	10	387	-5	0.2	-1	1.7	0.7	2.9
Te Mania Knight K206	13	341	-2	0.1	0	2.0	0.8	-0.4
Te Mania Knowledge K202	11	377	-22	0.2	-11	0.7	0.4	1.2
Te Mania Z32	14	27	5	-0.3	1	2.1	-0.2	0.5
The Basin Ansett SMB340	11	14	-8	0.9	2	-2.7	0.1	0.7
Tibooburra F28	10	298	14	0.3	10	-3.6	-0.3	5.5
Tinamba 81A 8111	15	28	13	-1.3	-1	-0.6	0.2	-2.0
Tinamba Extra Power E36	48	26	-13	-0.2	-8	2.1	-0.4	-1.0
Tinamba Gladiator G16	41	120	-8	-0.2	-6	-0.6	0.0	4.8
Tinamba Hallmark H9	37	118	13	0.5	10	1.6	0.2	-8.6
Tinamba J49	9	150	6	1.4	12	0.9	0.0	4.8
Tinamba J75	8	151	-7	1.3	4	-3.4	0.3	4.3
Tinamba K60	15	253	6	-0.3	2	1.5	-0.4	-4.6
Trangie Marsh H53	8	272	-9	0.1	-4	1.5	-0.1	1.1
Tulagi Z55	19	98	-5	0.2	-1	0.1	0.0	-3.9
Victoree Hallmark G7	31	119	-7	0.7	1	-1.4	0.3	-3.1
Victoree Kingston K16	9	328	-8	0.6	-1	-1.3	1.0	-1.2
Wanterenui Monty 601	14	254	-24	0.6	-10	-1.6	-0.4	1.1
Weeran D937	14	15	1	-0.5	-3	3.0	-0.6	-1.2
Wilson Downs Bud (Imp NZ)	8	229	46	0.3	28	-3.1	0.2	4.1
Wilson Downs Geneva	13	240	13	0.4	10	1.3	-0.3	-1.0
Ythanbrae G87	31	222	-26	0.1	-14	0.8	-0.2	-1.2
Ythanbrae GC10	26	223	3	1.1	9	-0.7	0.2	3.6
Ythanbrae H61	13	201	6	-0.4	1	0.5	0.1	-4.9
BREED AVERAGE			**274**	**56.2**	**412**	**25**	**2.6**	**81**

* 10/11th rib

Accuracy estimates for the EBV's calculated are:
5-10 steer progeny 55%
10-15 steer progeny 60%
15-20 steer progeny 65%

NB. No inference can be taken as to the comparative performance of the breed involved or other sires outside of this sample. The EBV's calculated for the traits measured are not Breedplan EBV's.

Grain fed for 200 days

Table 6:
M112 Sire Feedlot EBVs - Angus Trait Leaders

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Feedlot Weight Gain								
Wilson Downs Bud (Imp NZ)	8	229	46	0.3	28	-3.1	0.2	4.1
Glen Bold Hallmark H13	36	195	42	0.6	28	0.5	0.6	-0.2
Blackrock Roscoe J48	12	303	31	0.1	18	-0.2	-0.1	-3.1
Te Mania Joseph J123	9	277	28	-1.1	8	0.2	0.0	-1.5
Narrangullen G13	7	371	26	-0.4	12	0.4	0.0	2.7
Hazeldean 8717	21	234	24	0.9	20	4.5	-0.2	0.2
Springwell 862	12	156	22	-0.9	6	1.1	0.1	-0.6
Ballanee Patriot 70	8	180	22	0.2	14	0.4	0.5	4.6
Forres Hamlet H74	10	166	21	-0.5	9	-0.4	-0.1	-2.0
Glen Bold Rosco H11	9	198	21	0.3	14	0.9	0.3	-3.8
Dressing Percentage								
HB 0719	15	337	-25	2.2	0	1.6	-0.2	-1.6
Te Mania Hackle H95	14	207	9	1.8	17	1.5	0.7	9.6
Sparta Bordeaux H67	29	145	-2	1.5	8	0.8	0.3	2.8
Hazeldean J30	7	306	-7	1.4	5	-3.2	0.0	4.3
Tinamba J49	9	150	6	1.4	12	0.9	0.0	4.8
Tinamba J75	8	151	-7	1.3	4	-3.4	0.3	4.3
Hazeldean K670	13	357	8	1.2	12	2.5	0.1	2.2
Glen Bold Powerpack E27	17	193	-2	1.2	6	2.7	0.0	0.9
Ythanbrae GC10	26	223	3	1.1	9	-0.7	0.2	3.6
Four M Mr. A	15	1	-16	1.1	-2	-1.0	0.0	1.2
Beniagh H1	11	200	6	1.0	9	-0.8	0.1	-1.4
The Basin Ansett	11	14	-8	0.9	2	-2.7	0.1	0.7
Carcase Weight								
Wilson Downs Bud (Imp NZ)	8	229	46	0.3	28	-3.1	0.2	4.1
Glen Bold Hallmark H13	36	195	42	0.6	28	0.5	0.6	-0.2
Hazeldean 8717	21	234	24	0.9	20	4.5	-0.2	0.2
Blackrock Roscoe J48	12	303	31	0.1	18	-0.2	-0.1	-3.1
Te Mania Hackle H95	14	207	9	1.8	17	1.5	0.7	9.6
Six Plus Wampum	9	248	17	0.9	16	-2.4	-0.1	2.5

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Carcase Weight								
Glen Bold Rosco H11	9	198	21	0.3	14	0.9	0.3	-3.8
Ballanee Patriot 70	8	180	22	0.2	14	0.4	0.5	4.6
Millah-Murrah J60	12	383	13	0.9	13	1.2	-0.1	-0.7
Tinamba J49	9	150	6	1.4	12	0.9	0.0	4.8
Silveiras Cartel (Imp USA)	12	217	13	0.7	12	-0.1	-0.1	1.4
P8 Fat Depth								
Kingfield Kristan K16	11	388	-27	0.6	-12	-4.1	0.4	1.5
Hazeldean K584	11	363	-34	-0.1	-20	-3.7	-0.1	1.1
Tibooburra F38	10	298	14	0.3	10	-3.6	-0.3	5.5
Tinamba J75	8	151	-7	1.3	4	-3.4	0.3	4.3
Barwidgee Elite 61	15	16	-4	0.1	-2	-3.4	-0.1	1.3
Sparta Tornado B39	25	144	-6	0.0	-3	-3.2	-0.1	-1.5
Pinora Destiny D41	14	29	0	-0.1	-1	-3.2	-0.2	3.1
Hazeldean J30	7	306	-7	1.4	5	-3.2	0.0	4.3
Wilson Downs Bud (Imp NZ)	8	229	46	0.3	28	-3.1	0.2	4.1
Hazeldean H14	8	183	1	0.2	2	-3.0	0.2	4.6
Cobble Pond Yankee	10	58	-8	-0.9	-10	-2.9	0.7	-0.6
Noonee Everist	14	97	-6	0.1	-3	-2.8	-0.2	-0.6
Marbling								
Victoree Kingston K16	9	328	-8	0.6	-1	-1.3	1.0	-1.2
Te Mania Knight K206	13	341	-2	0.1	0	2.0	0.8	-0.4
Te Mania Hackle H95	14	207	9	1.8	17	1.5	0.7	9.6
Cobble Pond Yankee	10	58	-8	-0.9	-10	-2.9	0.7	-0.6
Te Mania Kirkman K254	10	387	-5	0.2	-1	1.7	0.7	2.9
Coolana Poundmaker B27	10	17	-2	-0.3	-3	-2.3	0.7	-1.9
Millah-Murrah J76	10	381	-3	0.1	-2	-0.4	0.6	-1.3
Te Mania Esteem E158	14	5	7	-0.3	2	0.9	0.6	3.6
Glendowner Evolution H28	7	212	2	-0.4	-1	2.4	0.6	-3.8
Glen Bold Hallmark H13	36	195	42	0.6	28	0.5	0.6	-0.2

Eye Muscle Area

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Te Mania Hackle H95	14	207	9	1.8	17	1.5	0.7	9.6
Te Mania Jock J71	32	316	13	0.4	10	-1.9	-0.6	8.6
Hazeldean 8761	19	235	-8	-0.3	-6	-2.4	0.0	6.1
Hazeldean K650	15	356	0	0.4	3	-1.4	0.0	5.8
Tibooburra F38	10	298	14	0.3	10	-3.6	-0.3	5.5
Ballangeich L117	16	342	-4	0.3	0	0.5	0.2	5.4
Tinamba J49	9	150	6	1.4	12	0.9	0.0	4.8
Tinamba Gladiator G16	41	120	-8	-0.2	-6	-0.6	0.0	4.8
Ballanee Patriot 70	8	180	22	0.2	14	0.4	0.5	4.6
Hazeldean H14	8	183	1	0.2	2	-3.0	0.2	4.6
Brookfield Park D16	12	271	0	-0.3	-2	-2.7	0.2	4.6
Hazeldean J30	7	306	-7	1.4	5	-3.2	0.0	4.3

* 10/11th rib

Accuracy estimates for the EBV's calculated are
5-10 steer progeny 55%
10-15 steer progeny 60%
15-20 steer progeny 65%

NB: No inference can be taken as to the comparative performance of the breed involved or other sires outside of this sample. The EBV's calculated for the traits measured are not Breedplan EBV's.

Grain fed for 200 days

Table 7:
M112 Sire Feedlot EBVs - Hereford

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Academy Pharoah J24	10	365	1	-0.5	-3	2.4	0.3	-3.8
Amir Dillon	22	83	8	-0.6	0	0.0	-0.1	4.8
Amir Duncan	8	168	7	-0.1	4	-2.3	-0.1	-1.9
Amir Edgar	7	167	13	0.5	11	-2.3	0.1	-0.6
Amir HB1	14	30	-18	0.5	-8	2.2	-0.4	0.5
Amir HB2	10	87	2	-0.5	-2	0.0	0.1	4.9
Amir HB3	8	169	20	0.3	13	-3.0	-0.2	-1.6
Amir Menzies	13	31	2	0.6	5	2.9	0.8	-1.6
Benoni Rebate	7	116	5	0.3	5	1.2	0.1	1.8
Charnock Fulham	11	46	-13	0.0	-7	-2.3	0.0	0.5
Coora Ottawa A1	13	10	19	1.2	19	2.8	-0.3	3.9
Courallie Kalamazoo K326	10	366	3	-0.2	0	2.4	0.0	2.8
Crystal Creeks 4146	15	64	0	-0.8	-5	0.2	0.2	-0.5
Dunoon Ceres K166	15	389	-39	0.2	-21	1.3	0.2	-3.0
Dunoon Cunnamulla	19	390	2	0.5	4	-1.0	-0.2	3.2
Fassifern Macmillan	10	76	1	0.9	6	0.8	-0.2	-0.7
Glentrevor Omen	10	9	7	-0.1	3	-0.7	-0.1	-0.4
Glentrevor Velour	15	185	-28	-0.8	-21	-1.6	-0.2	-4.1
Glentrevor Worker	14	63	2	0.9	7	0.0	-0.3	0.4
Injemira Jamaica	10	69	5	-0.3	1	0.0	-0.1	-0.9
Injemira Outback	12	68	-7	0.5	0	-2.3	0.0	6.6
Invermate Lidell	12	77	-2	-0.9	-7	-1.0	0.2	-2.2
Karachi Index	14	92	6	0.2	5	1.1	-0.1	-1.4
Lana Lionel 31	21	45	2	0.4	4	0.7	0.0	2.7
Lana Mark	7	170	24	0.1	14	-0.6	-0.2	-2.1
Landillo Findlow	10	84	11	-0.1	6	-2.4	0.0	0.9
Lowestoft Jasper	11	111	2	0.2	2	1.4	0.0	1.9
Lowestoft Joker	8	113	7	-0.6	0	1.4	0.0	-2.2
Myrna Downs H45	15	8	10	-0.3	3	1.6	-0.1	0.3
Nareen 82/307	9	12	13	0.5	11	3.0	0.3	-1.7
Nareen 83/165	11	13	-41	1.0	-17	-4.9	0.1	0.6
Nareen 84/161	10	11	24	-0.9	7	3.2	-0.2	-1.3
RH Prospector 8611251 (USA)	11	186	-31	-0.5	-20	-2.9	0.6	-1.0
Widgiewa H116	12	314	14	-0.4	5	1.6	0.1	1.7

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Widgiewa H132	8	315	7	-0.1	3	2.7	-0.3	-1.5
Widgiewa H271	20	188	-30	0.2	-15	-3.2	0.0	1.6
Widgiewa Ivanoff W48	25	43	-8	-0.6	-8	1.4	-0.1	-1.9
Widgiewa Sylvenvale Genus 16	15	44	-9	0.4	-3	3.8	0.0	-0.2
Widgiewa W59	14	187	-14	-0.1	-8	-2.9	0.3	-7.2
BREED AVERAGE			**280**	**55.1**	**400**	**25**	**1.7**	**78**

Table 8:
M112 Sire Feedlot EBVs - Poll Hereford

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Bowen Ebony E31	18	42	-5	0.0	-3	2.5	0.1	-4.1
Bowen Elite E17	10	93	15	0.0	8	-2.9	-0.3	3.5
Bowen Fathom F43	10	94	10	1.0	12	-0.1	-0.1	2.7
Bunyarra Mecedon	11	65	4	0.4	5	2.6	-0.4	3.6
Cass Tudor Viking B52	9	41	13	-0.6	4	-1.0	0.0	1.0
Dimbi Trent Llandillo K24	17	378	-2	0.1	0	1.3	0.0	-2.6
Dunoon H16	13	295	-4	-0.6	-6	-0.7	0.3	3.0
Emu Holes Monash F60	12	290	-2	0.3	1	2.2	0.6	-3.6
Felton 524 (IMP USA)	9	384	5	-0.4	0	3.3	-0.1	4.4
Llandillo Kowboy K18	18	379	3	-0.2	1	1.0	0.1	-0.7
The Braes Coxald	10	48	-8	0.0	-5	1.7	0.0	2.7
The Braes Granite	10	47	-4	0.1	-2	-2.2	-0.1	-0.5
Wol Bull Santiego	11	66	19	0.0	10	-0.1	-0.2	3.3
Wollbull Lachlan G91	11	291	-23	-0.6	-17	-1.9	0.2	-4.1
Womboyne Lancelot A71	14	39	-4	-0.6	-6	1.7	-0.2	-1.5
Womboyne Oregon D45	21	38	9	-1.0	-1	-0.4	-0.2	-1.7
Womboyne Oslo D28	11	82	-7	-0.1	-5	-0.6	0.1	-3.4
Womboyne Vacant B77	11	37	-3	0.8	4	-3.4	-0.4	-0.5
Yalgoo Arrow C138	15	40	6	0.9	10	0.6	0.5	-1.3
BREED AVERAGE			**282**	**55.3**	**405**	**27**	**1.9**	**79**

* 10/11th rib

Accuracy estimates for the EBV's calculated are
5-10 steer progeny 55%
10-15 steer progeny 60%
15-20 steer progeny 65%

NB: No inference can be taken as to the comparative performance of the breed involved or other sires outside of this sample. The EBV's calculated for the traits measured are not Breedplan EBV's.

Grain fed for 200 days

Table 9:
M112 Sire Feedlot EBVs - Murray Grey

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Cloverdale Dallas	9	238	-1	-0.3	-3	0.6	-0.1	-1.0
Cloverdale Gypsum	11	239	-14	0.7	-4	-2.5	0.3	0.1
Deanlaw Bojangles	11	237	9	-0.3	3	1.3	-0.2	0.3
Glen Busker	7	109	-7	0.0	-4	-0.5	-0.1	-2.1
Glen Whittler	11	88	-14	0.3	-6	2.3	0.0	0.8
Glengarret Camelot	13	67	-18	1.2	-3	2.0	-0.1	-3.4
Glengarret Chester	18	89	-12	0.1	-6	-0.1	0.2	0.3
Glengarret Dargo	27	22	8	-0.2	3	1.2	-0.1	2.6
Greybuck Aussie Glen 510	21	60	14	0.1	9	-1.3	-0.3	1.9
Greybuck Glen 3837	10	3	-8	0.4	-2	-1.2	0.3	2.3
Kydrabah Detective	24	33	14	-0.1	7	-1.3	0.2	-0.7
Malparara Jupitor	10	81	-7	0.4	-1	-1.6	0.1	-1.7
Moema Alexander	9	80	18	-0.4	7	1.0	-0.3	2.7
Orcadia Park Toyota	32	4	15	-0.3	6	-0.4	0.2	0.1
Orcadia Park Ultra-star	10	182	-7	-0.4	-7	-1.0	0.1	-1.3
Pinemount Apex	15	23	-1	0.1	0	-0.9	-0.1	2.4
Robe HB 1	12	55	30	-1.3	8	-0.6	0.3	1.1
Robe HB 39	24	190	-37	0.1	-21	-2.1	-1.1	3.2
Robe HB 41	32	54	14	1.6	19	0.9	0.2	3.0
Robe HB 48	26	189	-2	-0.5	-5	0.2	0.5	-4.1
Robe HB 58	24	236	-4	-0.1	-3	0.4	-0.3	0.6
Robe HB F100	10	321	-25	-0.5	-17	-0.8	0.1	-0.2
Robe HB 128	19	320	13	0.1	8	-0.1	0.4	-3.8
Rossmar Fortune	7	206	-2	-0.6	-5	-0.7	-0.1	-2.6
Rossmar Merlin	16	205	-4	-0.4	-5	1.7	0.4	2.4
Southern Cross French Horn 505	13	283	14	0.0	8	0.9	0.3	2.4
The Glen Sherlock	14	20	-9	0.5	-2	1.7	-0.1	1.2
The Glen Warcry 1128	23	32	13	0.0	7	1.1	-0.2	-0.1
Vernon Park Macdhui 696	15	21	8	-0.2	3	0.1	0.1	-2.7
Willalooka Osborne	26	90	-13	-0.1	-8	0.5	-0.2	-1.3
BREED AVERAGE			**256**	**56.5**	**393**	**24**	**2.5**	**78**

Table 10:
M112 Sire Feedlot EBVs - Shorthorn

Sire I.D.	No. Steer Progeny	Sire Code	# Feedlot Liveweight Gain	Dressing Percentage	# Carcase Weight (kg)	P8 Fat Cover (mm)	Marbling Score *	Eye Muscle Area * (sq cm)
Belmore Starlight	10	373	17	1.2	18	0.3	0.2	3.1
Claremont 28-86	9	375	-5	-0.7	-7	2.0	-0.1	-1.9
Claremont L82	10	374	10	0.0	6	-2.7	-0.1	0.6
Domino HB	10	262	-21	-0.8	-17	-2.8	0.2	-0.8
Doolibah Alex 41st	9	103	3	-0.5	-1	2.3	-0.1	-1.2
Doolibah Prophet	31	157	-3	0.4	1	-2.5	0.2	1.0
Doolibah Supreme	8	102	6	0.3	5	0.2	-0.1	0.4
Marellan Optimist	7	101	-6	0.6	0	-3.1	0.1	0.0
Marrington JR	10	267	4	0.0	2	-1.3	0.1	3.2
Marrington League	9	265	-4	-1.0	-9	1.2	0.0	-1.3
Moombe Beef Baron	10	266	-12	-0.3	-9	-0.7	0.2	-1.3
Narbrook 87/21	7	244	7	0.4	6	3.4	0.1	-1.0
Narbrook Corker 87/32	10	294	-2	0.1	0	5.4	-0.2	-3.0
Narbrook Profit 88/23	23	242	-8	0.0	-4	-2.7	0.5	0.8
Prophet HB	10	263	-6	0.4	-1	1.4	-0.1	2.9
Springwood Station Spender	9	264	-5	-0.2	-4	-1.6	-0.1	3.7
Stars & Stripes 10th	12	241	-6	0.5	0	-5.6	-0.5	0.1
BREED AVERAGE			**284**	**55.9**	**412**	**25**	**2.7**	**80**

* 10/11th rib

Accuracy estimates for the EBV's calculated are
5-10 steer progeny 55%
10-15 steer progeny 60%
15-20 steer progeny 65%

NB: No inference can be taken as to the comparative performance of the breed involved or other sires outside of this sample. The EBV's calculated for the traits measured are not Breedplan EBV's.

Grain fed for 200 days

FURTHER INFORMATION

A full copy of the 'M.112 - A feedlot sire evaluation scheme to improve the commercial competitiveness of Australian grain-fed beef' Final Report can be obtained from:

The Information Officer

Meat Research Corporation

PO Box A498

SYDNEY SOUTH NSW 2000

Ph. (02) 380 0666 Fax (02) 380 0699

E-mail address: RMARSHALL@mrc.gov.au

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DISCLAIMER

AUTHORS

Project M.112 was prepared for the Meat Research Corporation by:

Stuart Baud
Baud and Associates

Mike Goddard
NSW Agriculture
Animal Genetics and Breeding Unit (Armidale)

Linda Hygate
Agriculture Victoria

SPECIAL REQUEST

The authors and the MRC request the results from this study be viewed in a wider industry context and not selectively used for promotional purposes by any single interest group.

Meat Research Corporation