



# Beef Progeny Test

Maternal Report

JULY 2023





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# INTRODUCTION

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The Beef + Lamb New Zealand (B+LNZ) Genetics Beef Progeny Test project has been running since the first Artificial Insemination (AI) mating was undertaken in 2014. A distinguishing feature of the project was the retention of as many as possible commercially viable daughters from maternal Progeny Test sires (Angus, Hereford, and Stabilizer) into the cow herds involved, with maternal performance traits measured over time. This provides the opportunity to investigate sire performance for key maternal traits in a commercial herd setting.

The first two matings (at approx 15-months-old and 27-months-old) were by natural service, with bulls used selected by the Farm Managers. Following this, a cow might have been mated by AI (to generate further progeny for the programme) or by natural service.

The measurement programme on all breeding females was designed for practicality in a commercial (non-stud) hill country herd and included:

- Cow weight and Body Condition Score prior to mating (often at calf-marking), pre-calving and weaning/pregnancy scanning.
- Foetal age to within 5-day increments, estimated by experienced scanners at pregnancy testing. This measurement was ideally taken 90 – 100 days after the bull went out with the cows ensuring accurate aging.
- Calf weaning weight\* of all AI-sired calves and calves born to first-calving heifers.
- Hip height.

*\*Not reported as it is included in the 'Growth, Ultrasound Muscle Scanning and Carcase Report', published November 2022.*

This report includes data on performance up to 2022 with the first cohort of females, born in 2015, a rising 7-year-old cow having weaned their sixth calf through to the last cohort of females born to AI sires, born in 2020, being a rising 2-year-old heifer, in-calf with their first calf.

## Acknowledgements

**Progeny Test properties:** Whangara Farms (Gisborne), Pāmu's Rangitaiki Station (Taupo), the Black family's Mendip Hills Station (North Canterbury), Lone Star Farms' Caberfeidh Station, (South Canterbury) and Tautane Station (Herbertville).

**Project co-funders:** Beef + Lamb New Zealand, Ministry for Primary Industries, Focus Genetics and Simmental New Zealand.

**Industry partners:** AbacusBio, Beef Breed Societies, Craig Foote of Breedtech Services and Silver Fern Farms.

**Participating herds:** Thank you to the numerous bull owners and contributors that have supported the Progeny Test. For a list of sires in each cohort, including copies of earlier reports, please visit our website: [www.blznzgenetics.com/progeny-tests](http://www.blznzgenetics.com/progeny-tests)

## Contact

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## UNDERSTANDING THE SIRE REPORT

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**This report provides an indication on how sires are performing within the Beef Progeny Test and can't be directly compared against BREEDPLAN EBVs, or EBVs from other evaluations. For selection purposes, it is strongly advised that BREEDPLAN or other evaluation EBVs and selection indexes be used.**

### Trait values and rankings

The progeny averages and rank are displayed for each trait. If there are no values displayed, progeny have not yet been recorded for that trait, or not enough progeny of that sire were recorded for the trait value to be reliable (accuracy). Only sires with EBVs to report, have been ranked.

In most cases, higher-ranked sires have a higher value. E.g the top-ranked sire for Cow Body Condition Score (BCS) has the highest BCS. It is important to consider, that for some traits, such as Mature Cow Weight, the highest weight may not be considered the top-ranked sire, as this is a trait that is largely dependent on herd objectives and the environment in which the animals are bred.

For the Days to Conception trait, lower values are better as this indicates that daughters from this sire get in-calf earlier (measured in days). Therefore, the top-ranked sire for Days To Conception has the lowest value.

When reviewing rankings, it is important to consider the corresponding value figure, as the difference between rankings may be minimal. E.g. in the example provided on the next page, there is only a 5mm difference between bulls ranked 86 and 115 for Hip Height.

Some additional traits are recorded in the trial but not included in the report because the trait showed very little sire variation in this trial, i.e. it is not under significant genetic control. These traits include pregnancy rate as an 18-month-old heifer and pregnancy rate as a mixed-age cow.

### Interpreting the tables

The report has been grouped into two sections – cow size traits (Mature Cow Weight, Body Condition Score and Hip Height) and cow milk and fertility traits (Pregnancy Rate, Days to Conception and Milk).

Within the tables, the sires have been listed in ascending order by FIRST YEAR (progeny born), then alphabetically by BREED, then BULL NAME.

**Bull Name and Animal ID:** Both the registered bull name and Animal Identification number have been provided to help identify and search bulls on their relevant databases.

**Progeny Born - (First Year/ Last Year):** refers to the first year and last year that progeny have been born to the sire and indicates if a sire has been used in more than one mating (sires are often used in multiple matings to provide linkage across years). It provides context when reviewing the number of recorded progeny. E.g. Sires with fewer progeny may have only been used in one mating.

# INTERPRETING THE TABLE

**Progeny (N):** Number of recorded progeny (female only) by each sire. Excluding single animal contemporary groups.

**Progeny Born** = The first year and last year that progeny has been born to the sire.

**Total Bulls** = The number of bulls that have progeny measured for the trait.

Breed	Bull Name	Animal ID	PROGENY BORN		Total Bulls = 151			Total Bulls = 142			Total Bulls = 153		
			First Year	Last Year	N	Mature Cow Wt. (kg)	Rank	N	Body Condition Score (BCS)	Rank	N	Hip Height (mm)	Rank
HEREFORD	ARDO ACHILLES 120	0277100120	2017	2018	21	516.8	146	21	7.1	13	13	1284	115
HEREFORD	ARDO BISMARCK 4256	0277144256	2017	2018	18	518.3	143	18	6.9	100	9	1289	86
HEREFORD	GRASSMERE GALANT 9	0200140009	2017	2018	22	548.7	53	22	7.1	4	14	1298	31
HEREFORD	INJEMIRA ANZAC K220 (AUS)	AUIHSK220	2017	2017	14	527.6	133	14	6.9	80	7	1291	74
HEREFORD	KOANUI TECHNO 3062	0216133062	2017	2018	23	528.6	131	23	7.0	49	13	1300	24

**Bull Name / Animal ID** = The name of the sire and it's Breed Association Animal Identification number.

**Trait values** = The average performance of a sires' progeny. Values are calculated after adjusting for herd, management group, age of dam and age of animal (based on estimated conception date).

**Trait rank** = The ranking position of each sire for a particular trait, based on the number of bulls that have progeny measured for that trait. Rank 1 = the top-ranked sire.





Results



**Table one: Summary of adjusted progeny averages for Mature Cow Weight, Body Condition Score and Hip Height.**

Breed	Bull Name	Animal ID	PROGENY BORN		Total Bulls = 151			Total Bulls = 142			Total Bulls = 153		
			First Year	Last Year	N	Mature Cow Wt. (kg)	Rank	N	Body Condition Score (BCS)	Rank	N	Hip Height (mm)	Rank
ANGUS	CONNELY REVENUE 7392	US17220531	2015	2016	23	554.9	36	23	6.8	105	14	1288	90
ANGUS	EF COMPLEMENT 8088	US16198796	2015	2016	7	541.7	80	7	6.8	114	5	1280	139
ANGUS	FOSSIL CREEK HERO H006	18681012006	2015	2015	8	533.5	117	8	6.8	116	10	1275	148
ANGUS	G A R MOMENTUM	US17354145	2015	2016	17	539.7	86	17	7.0	40	10	1282	131
ANGUS	GLANWORTH WAIGROUP 1213	1215401213	2015	2015	8	546.5	62	8	6.9	68	8	1279	141
ANGUS	HPCA INTENSITY	US17366506	2015	2016	40	561.1	21	40	6.9	64	21	1292	61
ANGUS	LINTON 13007	NZE20305013007	2015	2015	25	517.3	144	25	6.8	124	19	1272	151
ANGUS	MATAURI OUTLIER F031	14647010F031	2015	2016	24	573.5	6	24	6.9	59	24	1295	46
ANGUS	MATAURI REALITY 839	14647008839	2015	2016	19	560.0	22	19	6.9	92	9	1291	75
ANGUS	NGAPUTAHU EUREKA E38	21095009E38	2015	2016	20	550.2	49	20	6.9	95	22	1292	62
ANGUS	PA SAFEGUARD 021	US16772185	2015	2017	10	554.4	38	10	6.9	82	14	1286	105
ANGUS	PINEBANK 64/10	1199001064	2015	2016	12	535.9	109	12	6.9	89	14	1280	138
ANGUS	RENNYLEA EDMUND E11	AUNORE11	2015	2016	31	573.3	7	31	7.0	25	13	1300	23
ANGUS	RISSINGTON 135057	NZE145720135057	2015	2015	17	561.6	19	17	6.9	77	14	1290	82
ANGUS	RISSINGTON 135262 (ET)	NZE145720135262	2015	2015	7	556.4	29	7	6.8	111	10	1297	42
ANGUS	RISSINGTON ANALYST 135252 (ET)	NZE145720135252	2015	2015	15	564.0	15	15	6.8	110	13	1301	22
ANGUS	RISSINGTON PROMINENT 100104	NZE145720100104	2015	2015	17	551.2	45	17	6.7	131	14	1297	43
ANGUS	RISSINGTON RESOLUTE 120992 (ET)	NZE145720120992	2015	2015	3	531.3	125	3	6.7	133	3	1285	111
ANGUS	S A V BRUISER 9164 (US)	US16396531	2015	2016	14	554.9	35	14	6.8	104	14	1292	63
ANGUS	STORTH OAKS H114	NZE19507012H114	2015	2016	35	557.0	26	35	7.1	10	19	1291	69
ANGUS	STORTH OAKS H2	NZE19507012H2	2015	2016	3	546.5	61				8	1287	98
ANGUS	STORTH OAKS H41	NZE19507012H41	2015	2015	15	585.9	1	15	7.2	3	11	1306	11
ANGUS	TANGIHAU KAINO H29	16883012H29	2015	2016	15	537.2	100	15	6.6	141	16	1294	50
ANGUS	TE MANIA 11 553	NZE16932011553	2015	2016	35	566.9	13	35	7.1	5	24	1297	35
ANGUS	TOTARANUI 238 (ET)	NZE12922011238	2015	2016	26	557.4	25	26	7.2	2	20	1290	79
ANGUS	TURIHAU CRUMP E5	17691009E5	2015	2016	27	572.3	9	27	7.0	47	17	1286	102
ANGUS	TURIHAU LIBERATION	17691007C27	2015	2015	16	556.4	28	16	6.7	130	14	1283	128
					<b>Minimum</b>	<b>495.8</b>			<b>6.6</b>			<b>1270</b>	
					<b>Average</b>	<b>543.7</b>			<b>6.9</b>			<b>1291</b>	
					<b>Maximum</b>	<b>585.9</b>			<b>7.2</b>			<b>1318</b>	

*Sires that do not have a value reported, have an inadequate number of female progeny recorded (N) for that particular trait.*



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			First Year	Last Year	N	Mature Cow Wt. (kg)	Rank	N	Body Condition Score (BCS)	Rank	N	Hip Height (mm)	Rank
HEREFORD	BEECHWOOD TURK	0051100094	2015	2015	8	553.2	41	8	6.9	71	6	1291	72
HEREFORD	BLUESTONE 120061	1683120061	2015	2016	26	535.1	111	26	6.7	132	14	1299	30
HEREFORD	GLENDAN PARK TOP GUN W042 (IMP AUS)	AUFSAW042	2015	2016	7	548.4	56	7	6.9	67	2	1295	47
HEREFORD	KOANUI ROCKET 0219	0216000219	2015	2016	23	563.1	17	23	6.9	51	11	1301	21
HEREFORD	MATARIKI HOLY SMOKE	0281070390	2015	2016	22	574.1	4	22	7.1	7	8	1290	80
HEREFORD	NITHDALE ELVIS 040021	0400040021	2015	2016	7	557.5	24	7	6.9	65	7	1284	120
HEREFORD	OKAWA DAVIS 7046	0617070046	2015	2015	16	556.1	30	16	6.8	112	8	1293	55
HEREFORD	OKAWA MARSHALL 0109	0617100109	2015	2016	19	563.7	16	19	7.0	36	12	1293	53
HEREFORD	OTAPAWA SPARK 3060	0347033060	2015	2015	52	583.1	3	52	7.2	1	23	1311	3
HEREFORD	WAIKAKA TURNING POINT 110015	0328110015	2015	2016	20	574.0	5	20	6.8	122	11	1318	1
HEREFORD	WIRRUNA DAFFY D1 (IMP AUS)	AUWNAD1	2015	2016	26	554.5	37	26	7.1	8	14	1284	114
STABILIZER	FOCUS BIG GENE 121293	N/A	2015	2017	28	529.2	129	28	6.7	137	19	1287	96
STABILIZER	FOCUS FORCEFUL 135159	N/A	2015	2016	23	531.9	123	23	6.7	136	24	1270	153
STABILIZER	FOCUS FOREFRONT 121599	N/A	2015	2016	27	537.9	95	27	6.6	142	23	1286	109
STABILIZER	FOCUS PORTERHOUSE 135361	N/A	2015	2016	16	544.4	71	16	6.7	138	14	1292	66
STABILIZER	FOCUS TRINITY 135263	N/A	2015	2016	12	572.7	8	12	7.0	19	8	1286	101
ANGUS	DEER VALLEY ALL IN (US)	US17307074	2016	2017	31	556.9	27	31	6.8	118	20	1299	29
ANGUS	FOCUS 131511	NZE194730131511	2016	2017	16	549.1	52	16	6.9	61	11	1286	104
ANGUS	FOCUS 131539	NZE194730131539	2016	2017	12	538.1	93	12	7.0	27	9	1293	52
ANGUS	FOCUS 143143	NZE194990143143	2016	2017	11	569.1	11	11	6.9	70	8	1312	2
ANGUS	KAKAHU BOND 13007	NZE13300013007	2016	2017	12	552.4	43	12	6.9	83	11	1305	13
ANGUS	KAKAHU JUBILANT 13054	NZE13300013054	2016	2017	8	532.9	120	8	6.8	121	7	1283	126
ANGUS	LINTON 13543	NZE20305013543	2016	2017	7	540.0	85	7	6.8	126	6	1309	7
ANGUS	MEADOWSLEA F540	19134010540	2016	2019	7	544.2	72	7	6.9	84	9	1288	89
ANGUS	MT MABLE FAT BOY 373	12188006373	2016	2017	17	543.0	78	17	6.8	113	13	1292	65
ANGUS	STORTH OAKS EVEREST J20	NZE19507013J20	2016	2017	22	555.4	33	22	7.0	21	16	1299	28
ANGUS	STORTH OAKS JACK J7	NZE19507013J7	2016	2018	7	567.7	12	7	6.9	50	10	1307	10
ANGUS	TE MANIA GARTH G67	VTMG67	2016	2016	10	551.1	47	10	7.0	43	7	1284	118
ANGUS	TE MANIA JONAH 13588	NZE16932013588	2016	2017	14	549.4	51	14	7.0	44	11	1301	19
ANGUS	TURIHAUA SIR CRUMBLE E222	17691009E222	2016	2017	15	562.6	18	15	7.0	26	12	1297	36
ANGUS	TUWHARETOA REGENT D145 (AUS)	AUBNAD145	2016	2018	36	569.1	10	36	7.0	20	26	1302	17
ANGUS	V A R RESERVE 1111 (US)	US16916944	2016	2017	20	553.8	39	20	6.9	60	16	1286	103
ANGUS	WAITANGI D213	NZE18954008D213	2016	2017	8	547.6	58	8	6.8	119	9	1284	122
ANGUS	WHANGARA 12323	NZE13649012323	2016	2017	12	555.6	32	12	6.9	90	11	1305	14
					<b>Minimum</b>	<b>495.8</b>			<b>6.6</b>			<b>1270</b>	
					<b>Average</b>	<b>543.7</b>			<b>6.9</b>			<b>1291</b>	
					<b>Maximum</b>	<b>585.9</b>			<b>7.2</b>			<b>1318</b>	

Sires that do not have a value reported, have an inadequate number of female progeny recorded (N) for that particular trait.

Breed	Bull Name	Animal ID	PROGENY BORN		Total Bulls = 151			Total Bulls = 142			Total Bulls = 153		
			First Year	Last Year	N	Mature Cow Wt. (kg)	Rank	N	Body Condition Score (BCS)	Rank	N	Hip Height (mm)	Rank
HEREFORD	ARDO FARGO 1154	0277111154	2016	2018	27	546.1	63	27	7.1	11	13	1278	144
HEREFORD	BLUESTONE 080014	1683080014	2016	2017	12	534.1	115	12	6.9	79	7	1297	40
HEREFORD	COLRAINE CODE WORD 13 139	1660130139	2016	2018	10	584.0	2	10	7.1	9	10	1303	16
HEREFORD	EFBEEF U208 FORTUNE Y848 (US)	US43187500	2016	2017	18	522.2	139	18	6.6	139	10	1283	129
HEREFORD	GRASSMERE SPARK 555	0200080555	2016	2017	3	534.0	116						
HEREFORD	KOANUI CHIEFLY 2510	0216122510	2016	2018	13	536.0	107	13	6.9	97	5	1284	121
HEREFORD	KOANUI UNIMOUS 0408	0216100408	2016	2018	19	558.0	23	19	6.9	81	9	1300	25
HEREFORD	LIMEHILLS STAMPER 120719	0677120719	2016	2017	23	561.6	20	23	6.9	52	6	1291	71
HEREFORD	MONYMUSK GALLANT 110089	0272110089	2016	2017	13	536.4	103	13	7.0	35	6	1281	133
HEREFORD	OKAWA MAJOR 2008	0617120008	2016	2017	28	555.7	31	28	7.0	42	7	1308	9
HEREFORD	ORARI GORGE MISCHIEF 120083	0400120083	2016	2017	11	535.9	108	11	6.9	94	4	1283	125
HEREFORD	WIRRUNA ECHUCA (AUS)	AUWNAE99	2016	2018	39	551.6	44	39	7.0	28	22	1297	37
STABILIZER	FOCUS BIG GENE 121292	N/A	2016	2019	37	538.3	92	37	6.8	115	32	1275	147
ANGUS	BRAVEHEART OF STERN	1217000784	2017	2018	3	534.7	113	3	6.9	86			
ANGUS	EARNSCLEUGH TUSSOCK 144307	210130144307	2017	2018	12	550.5	48	12	7.0	14	9	1295	44
ANGUS	EMBLAZON 999 (US)	US16665803	2017	2018	11	529.1	130	11	7.0	41	10	1281	134
ANGUS	GLANWORTH WAIGROUP 14163	12154014163	2017	2018	10	533.0	118	10	6.8	120	8	1293	56
ANGUS	GRAMPIANS LOTTERY K13	NZE21150014K13	2017	2018	9	537.7	97	9	7.0	34	8	1283	123
ANGUS	H P C A PROCEED (US)	US16956101	2017	2017	18	529.7	128	18	6.8	102	14	1290	84
ANGUS	KAKAHU 14003	NZE13300014D003	2017	2018	9	541.1	82	9	6.9	85	7	1300	26
ANGUS	LINTON 15077	NZE20305015077	2017	2018	6	545.8	64	6	7.0	23	6	1306	12
ANGUS	PATHFINDER GENESIS G357 (AUS)	AUSMPG357	2017	2017	25	544.7	67	25	7.0	39	22	1308	8
ANGUS	PINEBANK 97/11	1199001197	2017	2018	8	545.5	65	8	7.0	31	8	1284	117
ANGUS	RENNYLEA K163	AUNORK163	2017	2018	12	541.6	81	12	7.0	45	9	1290	81
ANGUS	RISSINGTON PREMIUM CUT C487	NZE14572015C487	2017	2018	11	543.6	75	11	7.0	18	8	1292	57
ANGUS	SEVEN HILLS 129/14	NZE21159014129	2017	2017	16	519.6	141	16	6.8	109	13	1291	77
ANGUS	STORTH OAKS ANGUS PRIME K5	NZE19507014K5	2017	2018	24	506.2	149	24	6.8	128	21	1286	108
ANGUS	STORTH OAKS K122	NZE19507014K122	2017	2019	31	536.2	104	31	6.9	78	27	1291	73
ANGUS	STORTH OAKS K134	NZE19507014K134	2017	2018	15	546.7	60	15	6.9	91	12	1311	4
ANGUS	THOMAS UP RIVER 1614 (US)	US17091363	2017	2018	12	528.6	132	12	6.9	99	8	1281	135
ANGUS	TURHAUA MYTHOLOGY F236	17691010F236	2017	2018	7	555.1	34	7	7.0	17	5	1284	116
ANGUS	VAR GENERATION 2100 (US)	US17171587	2017	2017	14	518.3	142	14	6.8	129	10	1283	127
ANGUS	WAITAWHETA K44 AB	18938014K44	2017	2018	16	547.7	57	16	7.0	38	13	1292	59
ANGUS	WR JOURNEY-1X74 (US)	US16924332	2017	2018	14	537.8	96	14	6.9	96	12	1305	15
					<b>Minimum</b>	<b>495.8</b>			<b>6.6</b>			<b>1270</b>	
					<b>Average</b>	<b>543.7</b>			<b>6.9</b>			<b>1291</b>	
					<b>Maximum</b>	<b>585.9</b>			<b>7.2</b>			<b>1318</b>	

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HEREFORD	ARDO ACHILLES 120	0277100120	2017	2018	21	516.8	146	21	7.1	13	13	1284	115
HEREFORD	ARDO BISMARCK 4256	0277144256	2017	2018	18	518.3	143	18	6.9	100	9	1289	86
HEREFORD	GRASSMERE GALANT 9	0200140009	2017	2018	22	548.7	53	22	7.1	4	14	1298	31
HEREFORD	INJEMIRA ANZAC K220 (AUS)	AUIHSK220	2017	2017	14	527.6	133	14	6.9	80	7	1291	74
HEREFORD	KOANUI TECHNO 3062	0216133062	2017	2018	23	528.6	131	23	7.0	49	13	1300	24
HEREFORD	MATARIKI 140255	0281140255	2017	2018	28	536.6	101	28	7.0	24	16	1298	33
HEREFORD	ORARI GORGE OLIGARCH 140025	0400140025	2017	2017	8	540.5	83	8	7.0	48	5	1295	45
HEREFORD	SHF ALL STAR 42X A191 (US)	US43379326	2017	2018	11	515.9	148	11	6.9	58	6	1282	132
HEREFORD	TE TAUMATA FOUNDATION 14684	0308140684	2017	2018	19	543.5	76	19	6.9	55	10	1292	60
HEREFORD	TLELL 29F RED CEDAR 8N (CAN)	CA02826570	2017	2018	20	495.8	151	20	6.6	140	11	1287	97
STABILIZER	STABILIZER 140082	N/A	2017	2018	11	517.0	145	11	6.7	135	11	1289	87
STABILIZER	STABILIZER 140850	N/A	2017	2019	19	505.7	150	19	6.8	125	19	1276	146
ANGUS	ARDROSSAN HONOUR H255 (AUS)	AUNAQH255	2018	2019	5	531.2	127	5	6.9	76	5	1287	93
ANGUS	BLUE MOUNTAIN BRILLIANZ O5	210530135	2018	2019	2	537.7	98						
ANGUS	FOCUS 163069	NZE194990163069	2018	2019	17	544.5	69	17	7.0	15	18	1298	32
ANGUS	GRAMPIANS BUZZ L11	NZE21150015L11	2018	2018	5	543.3	77	5	6.9	56	6	1284	119
ANGUS	KAKAHU 16159	NZE13300016159	2018	2019	6	519.8	140	6	6.8	117	7	1286	107
ANGUS	LD CAPITALIST 316 (USA)	US17666102	2018	2018	15	532.2	122	15	7.1	12	16	1279	140
ANGUS	MILLAH MURRAH LOCH UP L133 (AUS)	AUNMML133	2018	2019	3	525.4	135	3	6.8	107	4	1287	94
ANGUS	PA FULL POWER 1208 (USA)	US16981588	2018	2019	19	539.2	88	19	7.0	16	20	1294	48
ANGUS	QUAKER HILL MILE HIGH 4EX31 (USA)	US18078212	2018	2019	3	552.9	42	3	7.0	37	4	1294	49
ANGUS	REILAND HILARY H874 (AUS)	AUNLRH874	2018	2019	4	551.1	46	4	6.9	66	4	1293	54
ANGUS	RISSINGTON 160136	NZE145720160136	2018	2019	7	516.7	147	7	6.8	103	8	1291	76
ANGUS	RISSINGTON RESOLVED C116	NZE14572015C116	2018	2019	8	536.1	106	8	7.0	30	9	1280	136
ANGUS	STORTH OAKS L94	NZE19507015L94	2018	2019	13	531.2	126	13	6.8	127	17	1311	5
ANGUS	SYDGEN EXCEED 3223 (USA)	US17501893	2018	2019	6	523.6	137	6	6.7	134	6	1287	95
ANGUS	TE MANIA 15380	NZE16932015380	2018	2019	5	548.6	54	5	6.9	72	6	1297	39
ANGUS	TE MANIA MULLER 16305	NZE16932016305	2018	2019	5	544.0	73	5	6.9	93	6	1297	41
ANGUS	TOTARANUI 15151	NZE12922015151	2018	2018	9	534.7	114	9	6.9	98	9	1290	83
ANGUS	TURIROA 16M013	15603016M013	2018	2019	2	526.5	134				4	1298	34
ANGUS	WHENUAPAPA CRUMBLE 8-10	212110108	2018	2019	4	539.4	87	4	6.9	57	4	1285	110
					<b>Minimum</b>	<b>495.8</b>			<b>6.6</b>			<b>1270</b>	
					<b>Average</b>	<b>543.7</b>			<b>6.9</b>			<b>1291</b>	
					<b>Maximum</b>	<b>585.9</b>			<b>7.2</b>			<b>1318</b>	

Sires that do not have a value reported, have an inadequate number of female progeny recorded (N) for that particular trait.

Breed	Bull Name	Animal ID	PROGENY BORN		Total Bulls = 151			Total Bulls = 142			Total Bulls = 153		
			First Year	Last Year	N	Mature Cow Wt. (kg)	Rank	N	Body Condition Score (BCS)	Rank	N	Hip Height (mm)	Rank
HEREFORD	ARDO AJAX 5014	0277155014	2018	2019	9	532.8	121	9	6.8	101	10	1286	106
HEREFORD	CRAIGMORE IKE 140260	0169140260	2018	2019	8	544.5	70	8	7.0	32	9	1282	130
HEREFORD	DAYS ROBIN HOOD H38 (AUS)	AUDAYH38	2018	2019	10	538.8	89	10	7.0	33	10	1274	149
HEREFORD	GRASSMERE GALLANT 152	0200150152	2018	2019	12	538.0	94	12	6.9	73	10	1271	152
HEREFORD	KOANUI LEGIT 6444	0216166444	2018	2019	8	522.8	138	8	6.8	108	8	1274	150
HEREFORD	LIMEHILLS STREAKER 150368	0677150368	2018	2019	15	547.2	59	15	7.0	22	18	1292	58
HEREFORD	OKAWA HOGAN 3156	0617130156	2018	2018	12	564.7	14	12	7.1	6	16	1310	6
HEREFORD	ORARI GORGE PATTON 150051	0400150051	2018	2019	5	534.7	112	5	6.9	63	7	1280	137
HEREFORD	ORARI GORGE QUANTUM 160091	0400160091	2018	2019	13	537.6	99	13	6.9	74	15	1283	124
HEREFORD	WESTHOLM TRUST R 58	0421160058	2018	2019	13	540.2	84	13	6.9	88	13	1302	18
ANGUS	CONNEALY LEGENDARY 644L (USA)	US18534952	2019	2020							5	1279	143
ANGUS	FOCUS 171293	NZE194730171293	2019	2019	3	536.1	105	3	6.9	62	2	1287	92
ANGUS	KAKAHU LACHLAN 15095	NZE13300015095	2019	2020	5	531.7	124	5	6.8	123	6	1277	145
ANGUS	LINTON 16107	NZE20305016107	2019	2020	2	535.8	110				3	1285	113
ANGUS	RISSINGTON 17014	NZE14572017014	2019	2020							2	1292	68
ANGUS	STORTH OAKS JOURNEY M31	NZE19507016M31	2019	2020	4	538.7	90	4	7.0	29	6	1291	70
ANGUS	STORTH OAKS M10	NZE19507016M10	2019	2020	4	553.5	40	4	6.9	53	6	1297	38
ANGUS	STORTH OAKS M119	NZE19507016M119	2019	2020	3	548.5	55	3	6.9	87	6	1300	27
ANGUS	SYDGEN BLACK PEARL 2006 (USA)	US17236055	2019	2020	2	544.6	68				3	1287	99
ANGUS	TE MANIA MATRIX 16018	NZE16932016018	2019	2020	4	536.6	102	4	6.9	75	3	1289	85
ANGUS	WAITANGI M203	NZE18954016M203	2019	2020	2	544.0	74				3	1287	100
ANGUS	WAITANGI M214	NZE18954016M214	2019	2020	3	550.2	50	3	6.9	54			
HEREFORD	LIMEHILLS STARTER 160062	0677160062	2019	2020	2	533.0	119				3	1292	67
HEREFORD	MATARIKI 110637	0281110637	2019	2020	1	545.2	66				5	1285	112
HEREFORD	MATARIKI JETSON	0281160215	2019	2020	7	541.8	79	7	6.8	106	2	1292	64
HEREFORD	OKAWA STAMPER 160124	0617160124	2019	2020	9	524.9	136	9	6.9	69	3	1279	142
HEREFORD	WIRRUNA MATTY M288 (AUS)	AUWNAM288	2019	2020	9	538.4	91	9	7.0	46	2	1301	20
STABILIZER	STABILIZER 165292	N/A	2019	2020							3	1289	88
					<b>Minimum</b>	<b>495.8</b>			<b>6.6</b>			<b>1270</b>	
					<b>Average</b>	<b>543.7</b>			<b>6.9</b>			<b>1291</b>	
					<b>Maximum</b>	<b>585.9</b>			<b>7.2</b>			<b>1318</b>	

Sires that do not have a value reported, have an inadequate number of female progeny recorded (N) for that particular trait.



## Trait Definitions

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### **Mature Cow Weight:**

Weight of a cow at 3 years and older. Cow weight is measured at mating, weaning, and pre-calving.

For the purpose of this report, data was used from weaning only, due to the measurements across the year being so highly correlated for this trait.

### **Body Condition Score:**

The Body Condition Score (BCS) is a measure of the fat and muscle reserves of the cow. This is scored on a 1 – 10 scale with 1 being totally emaciated and 10 being obese. Body Condition Score is measured at mating, weaning, and pre-calving.

For the purpose of this report, data was used from weaning only, due to the measurements across the year being so highly correlated for this trait.

### **Hip Height:**

Height of an animal, measured at the hip and an indicator of frame size.

Hip height is measured on progeny at 1 year of age (steers and heifers), 2 years of age (females only) and 3 years of age (females only). For the purpose of this report, data is reported for females measured at 2 and 3 years of age.

## Key Messages

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### Management Messages:

- Body Condition Score is a relevant trait for reproductive success. Cows should be at a target BCS of 7 at mating for optimum reproductive performance. The biggest impact on reproductive performance of a herd can be obtained by reducing the percentage of low conditioned cows in the herd. From a management perspective, an ideal time to identify these cows is at pre-calving, allowing time for these animals to put on condition before mating.
- As a rule of thumb, a cow has to put on 27kg to go up one condition score. Those cows in very low condition (BCS 4) only have to put on 15kg to go up in condition – well worth the investment in feed.

### Genetic messages:

- Mature Cow Weight is an indicator of cull cow value (heavier cows are more valuable when culled) and cow feed requirements (heavier cows are assumed to require more feed for maintenance).
- Body Condition Score is heritable (27%) with reasonable genetic variation. This genetic variation exists across sires, and between sires within a breed, meaning there is potential to influence BCS with genetics.
- The Body Condition Score of cows is not strongly related to fat depth measured in young heifers and steers – the correlation is only 25%. This means that using fat depth EBVs to improve condition score of cows is not very effective and will add a lot of fat to carcasses relative to the improvement in BCS of cows.

**Table two: Summary of adjusted progeny averages for Pregnancy Rate (as a 2-year-old Heifer), Days to Conception (as a 2-year-old Heifer) and Milk.**

BREED	NAME	Animal ID	PROGENY BORN		TOTAL BULLS = 101			TOTAL BULLS = 53			TOTAL BULLS = 121		
			First Year	Last Year	N	Pregnancy Rate (%)	Rank	N	Days to Conception (Days)	Rank	N	Milk (kg)	Rank
ANGUS	CONNEALY REVENUE 7392	US17220531	2015	2016	7	92%	14	17	25.4	27	6	8.0	6
ANGUS	EF COMPLEMENT 8088	US16198796	2015	2016							4	3.5	32
ANGUS	FOSSIL CREEK HERO H006	18681012006	2015	2015	4	92%	19				5	5.2	21
ANGUS	G A R MOMENTUM	US17354145	2015	2016	4	86%	86				6	4.4	30
ANGUS	GLANWORTH WAIGROUP 1213	1215401213	2015	2015	4	83%	96				5	-6.8	113
ANGUS	HPCA INTENSITY	US17366506	2015	2016	9	92%	10	30	24.3	8	7	9.4	5
ANGUS	LINTON 13007	NZE20305013007	2015	2015	9	94%	4	17	25.0	19	12	-1.8	84
ANGUS	MATAURI OUTLIER F031	14647010F031	2015	2016	12	90%	52	17	26.0	40	15	1.4	51
ANGUS	MATAURI REALITY 839	14647008839	2015	2016	5	90%	62				10	3.2	37
ANGUS	NGAPUTAHU EUREKA E38	21095009E38	2015	2016	10	93%	8	15	25.5	29	11	1.6	48
ANGUS	PA SAFEGUARD 021	US16772185	2015	2017	5	87%	83				9	-18.5	121
ANGUS	PINEBANK 64/10	1199001064	2015	2016	7	92%	26				4	-1.3	82
ANGUS	RENNYLEA EDMUND E11	AUNORE11	2015	2016	7	92%	23	25	24.0	4	10	-6.0	110
ANGUS	RISSINGTON 135057	NZE145720135057	2015	2015	4	91%	29	12	23.6	2	9	2.0	43
ANGUS	RISSINGTON 135262 (ET)	NZE145720135262	2015	2015							4	3.4	33
ANGUS	RISSINGTON ANALYST 135252 (ET)	NZE145720135252	2015	2015	6	90%	49	13	26.2	43	10	-0.1	67
ANGUS	RISSINGTON PROMINENT 100104	NZE145720100104	2015	2015	6	92%	15	15	27.0	47	10	5.0	23
ANGUS	RISSINGTON RESOLUTE 120992 (ET)	NZE145720120992	2015	2015							2	-1.9	85
ANGUS	S A V BRUISER 9164 (US)	US16396531	2015	2016	5	87%	75	10	24.7	16	6	4.9	27
ANGUS	STORTH OAKS H114	NZE19507012H114	2015	2016	9	91%	27	24	24.7	15	8	-11.5	116
ANGUS	STORTH OAKS H41	NZE19507012H41	2015	2015	4	91%	41				8	-4.8	102
ANGUS	TANGIHAU KAINO H29	16883012H29	2015	2016	8	91%	35	8	25.8	34	6	-3.4	100
ANGUS	TE MANIA 11 553	NZE16932011553	2015	2016	12	94%	3	28	24.4	9	13	-6.2	112
ANGUS	TOTARANUI 238 (ET)	NZE12922011238	2015	2016	10	93%	5	21	24.4	10	8	-0.1	68
ANGUS	TURIHAU CRUMP E5	17691009E5	2015	2016	9	89%	64	20	25.9	37	12	0.6	54
ANGUS	TURIHAU LIBERATION	17691007C27	2015	2015	9	91%	34	11	25.0	21	11	1.7	47
					<b>Minimum</b>	<b>77%</b>			<b>23.1</b>			<b>-18.5</b>	
					<b>Average</b>	<b>89%</b>			<b>25.4</b>			<b>0.2</b>	
					<b>Maximum</b>	<b>96%</b>			<b>28.3</b>			<b>12.1</b>	

Sires that do not have a value reported, have an inadequate number of female progeny recorded (N) for that particular trait.



BREED	NAME	Animal ID	PROGENY BORN		TOTAL BULLS = 101			TOTAL BULLS = 53			TOTAL BULLS = 121		
			First Year	Last Year	N	Pregnancy Rate (%)	Rank	N	Days to Conception (Days)	Rank	N	Milk (kg)	Rank
HEREFORD	BEECHWOOD TURK	0051100094	2015	2015	4	92%	16				7	5.2	22
HEREFORD	BLUESTONE 120061	1683120061	2015	2016	8	86%	91	19	27.1	49	14	7.5	10
HEREFORD	GLENDAN PARK TOP GUN W042 (IMP AUS)	AUFSAW042	2015	2016							4	3.4	34
HEREFORD	KOANUI ROCKET 0219	0216000219	2015	2016	5	92%	24				13	2.4	41
HEREFORD	MATARIKI HOLY SMOKE	0281070390	2015	2016	4	88%	71				8	4.7	28
HEREFORD	NITHDALE ELVIS 040021	0400040021	2015	2016							6	-2.8	95
HEREFORD	OKAWA DAVIS 7046	0617070046	2015	2015	6	85%	92				9	12.1	1
HEREFORD	OKAWA MARSHALL 0109	0617100109	2015	2016	6	92%	25	15	25.2	25	11	-1.3	83
HEREFORD	OTAPAWA SPARK 3060	0347033060	2015	2015	14	91%	48	34	25.2	26	22	0.3	59
HEREFORD	WAIKAKA TURNING POINT 110015	0328110015	2015	2016	4	87%	73				6	-1.1	79
HEREFORD	WIRRUNA DAFFY D1 (IMP AUS)	AUWNAD1	2015	2016	8	87%	76	20	25.8	36	12	-16.7	120
STABILIZER	FOCUS BIG GENE 121293	N/A	2015	2017	10	86%	88	19	25.9	38	15	6.0	14
STABILIZER	FOCUS FORCEFUL 135159	N/A	2015	2016	12	91%	43	21	23.1	1	10	2.8	39
STABILIZER	FOCUS FOREFRONT 121599	N/A	2015	2016	12	88%	69	29	24.5	13	14	8.0	7
STABILIZER	FOCUS PORTERHOUSE 135361	N/A	2015	2016	8	87%	78	17	27.7	51	10	3.7	31
STABILIZER	FOCUS TRINITY 135263	N/A	2015	2016	4	90%	57				6	-0.2	71
ANGUS	DEER VALLEY ALL IN (US)	US17307074	2016	2017	8	92%	13	21	25.7	32	9	-14.9	119
ANGUS	FOCUS 131511	NZE194730131511	2016	2017	6	91%	44	13	25.0	22	4	7.1	11
ANGUS	FOCUS 131539	NZE194730131539	2016	2017	6	91%	47				2	0.5	55
ANGUS	FOCUS 143143	NZE194990143143	2016	2017	6	87%	79						
ANGUS	KAKAHU BOND 13007	NZE13300013007	2016	2017	9	87%	74	10	26.7	46			
ANGUS	KAKAHU JUBILANT 13054	NZE13300013054	2016	2017	5	82%	97						
ANGUS	LINTON 13543	NZE20305013543	2016	2017	4	91%	46						
ANGUS	MEADOWSLEA F540	19134010540	2016	2019	5	93%	7						
ANGUS	MT MABLE FAT BOY 373	12188006373	2016	2017	8	88%	72	14	26.4	44	4	-5.6	109
ANGUS	STORTH OAKS EVEREST J20	NZE19507013J20	2016	2017	9	91%	30	17	24.4	11	3	2.7	40
ANGUS	STORTH OAKS JACK J7	NZE19507013J7	2016	2018	4	90%	50						
ANGUS	TE MANIA GARTH G67	VTMG67	2016	2016	5	90%	51				2	0.0	64
ANGUS	TE MANIA JONAH 13588	NZE16932013588	2016	2017	6	77%	101	11	28.1	52	3	-0.1	66
ANGUS	TURIHAUA SIR CRUMBLE E222	17691009E222	2016	2017	7	87%	80				2	-2.3	89
ANGUS	TUWHARETOA REGENT D145 (AUS)	AUBNAD145	2016	2018	14	92%	17	28	24.0	3	8	-0.5	74
ANGUS	V A R RESERVE 1111 (US)	US16916944	2016	2017	8	89%	63				5	3.2	35
ANGUS	WAITANGI D213	NZE18954008D213	2016	2017	5	91%	39						
ANGUS	WHANGARA 12323	NZE13649012323	2016	2017	5	89%	65				2	3.2	36
					<b>Minimum</b>	<b>77%</b>			<b>23.1</b>			<b>-18.5</b>	
					<b>Average</b>	<b>89%</b>			<b>25.4</b>			<b>0.2</b>	
					<b>Maximum</b>	<b>96%</b>			<b>28.3</b>			<b>12.1</b>	

Sires that do not have a value reported, have an inadequate number of female progeny recorded (N) for that particular trait.

BREED	NAME	Animal ID	PROGENY BORN		TOTAL BULLS = 101			TOTAL BULLS = 53			TOTAL BULLS = 121		
			First Year	Last Year	N	Pregnancy Rate (%)	Rank	N	Days to Conception (Days)	Rank	N	Milk (kg)	Rank
HEREFORD	ARDO FARGO 1154	0277111154	2016	2018	4	90%	54	15	25.4	28	5	-1.3	81
HEREFORD	BLUESTONE 080014	1683080014	2016	2017	4	90%	53				4	0.4	58
HEREFORD	COLRAINE CODE WORD 13 139	1660130139	2016	2018	5	90%	55						
HEREFORD	EFBEEF U208 FORTUNE Y848 (US)	US43187500	2016	2017	5	90%	58				4	0.0	65
HEREFORD	KOANUI CHIEFLY 2510	0216122510	2016	2018							4	1.7	46
HEREFORD	KOANUI UNIMOUS 0408	0216100408	2016	2018							5	5.3	20
HEREFORD	LIMEHILLS STAMPER 120719	0677120719	2016	2017							5	-2.7	94
HEREFORD	MONYMUSK GALLANT 110089	0272110089	2016	2017							4	4.9	26
HEREFORD	OKAWA MAJOR 2008	0617120008	2016	2017							2	-0.8	77
HEREFORD	WIRRUNA ECHUCA (AUS)	AUWNAE99	2016	2018	9	91%	45	29	25.5	31	8	-5.1	104
STABILIZER	FOCUS BIG GENE 121292	N/A	2016	2019	16	91%	32	28	25.5	30	14	0.2	61
ANGUS	BRAVEHEART OF STERN	1217000784	2017	2018							2	-5.3	106
ANGUS	EARNSCLEUGH TUSSOCK 144307	210130144307	2017	2018							5	-0.2	69
ANGUS	EMBLAZON 999 (US)	US16665803	2017	2018	4	82%	99				5	-2.2	87
ANGUS	GLANWORTH WAIGROUP 14163	12154014163	2017	2018							5	-12.4	118
ANGUS	GRAMPIANS LOTTERY K13	NZE21150014K13	2017	2018							4	-1.2	80
ANGUS	H P C A PROCEED (US)	US16956101	2017	2017	7	92%	22				7	0.0	63
ANGUS	KAKAHU 14003	NZE13300014D003	2017	2018	4	86%	90				4	1.4	50
ANGUS	LINTON 15077	NZE20305015077	2017	2018							3	7.0	12
ANGUS	PATHFINDER GENESIS G357 (AUS)	AUSMPG357	2017	2017	7	87%	84	16	25.0	24	9	7.6	9
ANGUS	PINEBANK 97/11	1199001197	2017	2018							3	-0.5	73
ANGUS	RENNYLEA K163	AUNORK163	2017	2018							4	-3.3	99
ANGUS	RISSINGTON PREMIUM CUT C487	NZE14572015C487	2017	2018							4	-4.1	101
ANGUS	SEVEN HILLS 129/14	NZE21159014129	2017	2017	6	87%	77				7	4.9	25
ANGUS	STORTH OAKS ANGUS PRIME K5	NZE19507014K5	2017	2018	9	92%	21	15	24.2	6	10	1.7	45
ANGUS	STORTH OAKS K122	NZE19507014K122	2017	2019	11	94%	2	17	24.9	17	13	2.1	42
ANGUS	STORTH OAKS K134	NZE19507014K134	2017	2018	4	86%	87				6	0.4	57
ANGUS	THOMAS UP RIVER 1614 (US)	US17091363	2017	2018							5	-0.7	76
ANGUS	TURIHAUA MYTHOLOGY F236	17691010F236	2017	2018							3	-2.5	92
ANGUS	VAR GENERATION 2100 (US)	US17171587	2017	2017							5	7.9	8
ANGUS	WAITAWHETA K44 AB	18938014K44	2017	2018	5	90%	61				7	5.5	19
ANGUS	WR JOURNEY-1X74 (US)	US16924332	2017	2018	4	91%	33				6	11.0	2
					<b>Minimum</b>	<b>77%</b>			<b>23.1</b>			<b>-18.5</b>	
					<b>Average</b>	<b>89%</b>			<b>25.4</b>			<b>0.2</b>	
					<b>Maximum</b>	<b>96%</b>			<b>28.3</b>			<b>12.1</b>	

Sires that do not have a value reported, have an inadequate number of female progeny recorded (N) for that particular trait.

BREED	NAME	Animal ID	PROGENY BORN		TOTAL BULLS = 101			TOTAL BULLS = 53			TOTAL BULLS = 121		
			First Year	Last Year	N	Pregnancy Rate (%)	Rank	N	Days to Conception (Days)	Rank	N	Milk (kg)	Rank
HEREFORD	ARDO ACHILLES 120	0277100120	2017	2018	9	91%	37	8	24.2	7	7	-2.1	86
HEREFORD	ARDO BISMARCK 4256	0277144256	2017	2018	5	86%	89				6	0.2	60
HEREFORD	GRASSMERE GALANT 9	0200140009	2017	2018	9	91%	42	9	27.0	48	8	-5.1	103
HEREFORD	INJEMIRA ANZAC K220 (AUS)	AUIHSK220	2017	2017	4	90%	60				5	-5.4	107
HEREFORD	KOANUI TECHNO 3062	0216133062	2017	2018	8	90%	59	10	25.0	23	9	-3.0	98
HEREFORD	MATARIKI 140255	0281140255	2017	2018	10	91%	40	13	25.8	35	9	5.6	18
HEREFORD	ORARI GORGE OLIGARCH 140025	0400140025	2017	2017							3	-2.3	88
HEREFORD	SHF ALL STAR 42X A191 (US)	US43379326	2017	2018	5	90%	56				4	-0.2	70
HEREFORD	TE TAUMATA FOUNDATION 14684	0308140684	2017	2018	8	87%	85	9	26.0	42	6	-5.4	108
HEREFORD	TLELL 29F RED CEDAR 8N (CAN)	CA02826570	2017	2018	8	87%	82	9	28.3	53	8	-6.2	111
STABILIZER	STABILIZER 140082	N/A	2017	2018							5	5.7	17
STABILIZER	STABILIZER 140850	N/A	2017	2019	9	83%	94	10	27.1	50	10	-6.9	114
ANGUS	ARDROSSAN HONOUR H255 (AUS)	AUNAQH255	2018	2019							3	-5.3	105
ANGUS	FOCUS 163069	NZE194990163069	2018	2019	10	84%	93	9	25.9	39	11	4.9	24
ANGUS	GRAMPIANS BUZZ L11	NZE21150015L11	2018	2018							3	6.4	13
ANGUS	KAKAHU 16159	NZE13300016159	2018	2019	4	89%	66				4	-11.9	117
ANGUS	LD CAPITALIST 316 (USA)	US17666102	2018	2018	8	88%	68	8	26.0	41	8	1.0	52
ANGUS	MILLAH MURRAH LOCH UP L133 (AUS)	AUNMML133	2018	2019							2	-2.4	90
ANGUS	PA FULL POWER 1208 (USA)	US16981588	2018	2019	11	96%	1	9	25.8	33	11	1.4	49
ANGUS	RISSINGTON 160136	NZE145720160136	2018	2019	4	88%	67				5	-2.6	93
ANGUS	RISSINGTON RESOLVED C116	NZE14572015C116	2018	2019	4	92%	20				4	5.9	15
ANGUS	STORTH OAKS L94	NZE19507015L94	2018	2019	7	93%	6	7	24.2	5	9	10.5	3
ANGUS	SYDGEN EXCEED 3223 (USA)	US17501893	2018	2019							3	-0.3	72
ANGUS	TE MANIA 15380	NZE16932015380	2018	2019							3	9.4	4
ANGUS	TE MANIA MULLER 16305	NZE16932016305	2018	2019							3	0.0	62
ANGUS	TOTARANUI 15151	NZE12922015151	2018	2018	5	88%	70				4	-3.0	96
ANGUS	WHENUAPAPA CRUMBLE 8-10	212110108	2018	2019							2	-0.9	78
					<b>Minimum</b>	<b>77%</b>			<b>23.1</b>			<b>-18.5</b>	
					<b>Average</b>	<b>89%</b>			<b>25.4</b>			<b>0.2</b>	
					<b>Maximum</b>	<b>96%</b>			<b>28.3</b>			<b>12.1</b>	

Sires that do not have a value reported, have an inadequate number of female progeny recorded (N) for that particular trait.



BREED	NAME	Animal ID	PROGENY BORN		TOTAL BULLS = 101			TOTAL BULLS = 53			TOTAL BULLS = 121		
			First Year	Last Year	N	Pregnancy Rate (%)	Rank	N	Days to Conception (Days)	Rank	N	Milk (kg)	Rank
HEREFORD	ARDO AJAX 5014	0277155014	2018	2019	5	83%	95				5	0.4	56
HEREFORD	CRAIGMORE IKE 140260	0169140260	2018	2019	4	91%	28				5	-9.2	115
HEREFORD	DAYS ROBIN HOOD H38 (AUS)	AUDAYH38	2018	2019	6	80%	100				5	-3.0	97
HEREFORD	GRASSMERE GALLANT 152	0200150152	2018	2019	5	91%	31				7	-0.7	75
HEREFORD	KOANUI LEGIT 6444	0216166444	2018	2019	4	91%	38				4	5.9	16
HEREFORD	LIMEHILLS STREAKER 150368	0677150368	2018	2019	8	93%	9	8	24.5	12	8	0.7	53
HEREFORD	OKAWA HOGAN 3156	0617130156	2018	2018	6	92%	12				7	-2.4	91
HEREFORD	ORARI GORGE PATTON 150051	0400150051	2018	2019							4	4.4	29
HEREFORD	ORARI GORGE QUANTUM 160091	0400160091	2018	2019	7	92%	11	7	24.6	14	6	3.1	38
HEREFORD	WESTHOLM TRUST R 58	0421160058	2018	2019	7	92%	18	8	25.0	20	8	1.8	44
ANGUS	KAKAHU LACHLAN 15095	NZE13300015095	2019	2020	4	82%	98						
ANGUS	STORTH OAKS JOURNEY M31	NZE19507016M31	2019	2020	4	87%	81						
ANGUS	STORTH OAKS M10	NZE19507016M10	2019	2020	4	91%	36						
HEREFORD	OKAWA STAMPER 160124	0617160124	2019	2020				9	26.7	45			
HEREFORD	WIRRUNA MATTY M288 (AUS)	AUWNAM288	2019	2020				9	25.0	18			
					<b>Minimum</b>	<b>77%</b>			<b>23.1</b>			<b>-18.5</b>	
					<b>Average</b>	<b>89%</b>			<b>25.4</b>			<b>0.2</b>	
					<b>Maximum</b>	<b>96%</b>			<b>28.3</b>			<b>12.1</b>	

Sires that do not have a value reported, have an inadequate number of female progeny recorded (N) for that particular trait.

## Trait Definitions

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### **Pregnancy Rate – 2-year-old Heifer:**

Represents the percentage of a sire's 2-year-old re-breeding daughters (heifers) in-calf at their second mating (natural mating).

### **Days to Conception – 2-year-old Heifer:**

Represents the average number of Days to Conception of a sire's daughters, from the time when the first heifer in the mob conceived and calculated from estimated Foetal Age ultrasound scanning.

The trait combines both the ability to get pregnant (which is represented in the Pregnancy Rate trait), with credit for getting pregnant early in the mating period.

Similar concept to the Days to Calving (DTC) trait used in BREEDPLAN and presented in sale catalogues but does not include variation in gestation length.

This trait has been reported for heifers at their second breeding (as a 30-month-old heifer).

### **Milk:**

Milk represents the impact of a sire's daughters on the weaning weight of their calves, beyond that from direct genetics alone.

The milk results are expressed as a factor to add or subtract from weaning weight. The number of calves in this report (N), refers to the number of that sire's maternal grand calves.

## Key Messages:

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- There was considerable sire variation (within and across breeds) in Pregnancy Rate of 2-year-old heifers (re-breeding heifers) with a heritability of 12 – 14 % and in Days to Conception of 2-year-old heifers with a heritability of 21%. This indicates that genetics has a significant impact on the ability of 2-year-old heifers to re-breed.
- Pregnancy Rate and Days to Conception are highly correlated, indicating that we are essentially talking about the same trait, just expressed in a different unit of measurement.
- Milk, with a heritability of 20%, indicates that a significant proportion of difference in calf weaning weights are attributable to the genetics of the dam.
- The Milk potential of the dam explains between 16 – 30% of the variation in cow BCS.

## Appendix

- An adjustment for heterosis (the scientific term for “hybrid vigour”) was made so that the advantage of cross-bred progeny was removed from the estimation of the sire’s performance.
- Outcomes are expressed as sire progeny group means, which are related to the mean performance of animals across the programme for the trait. The differences between sires in their progeny group means, are half of the difference that would be expressed on an EBV basis.
- Traits that had no sire effect, have not been reported. This includes Pregnancy Rate as a heifer and mixed age cow, Days to Conception as a heifer and mixed age cow.

### Trait Definitions

<b>Body Condition Score:</b>	The Body Condition Score (BCS) is a measure of the fat and muscle reserves of the cow. This is scored on a 1 – 10 scale with 1 being totally emaciated and 10 being obese. Body Condition Score is measured at mating, weaning, and pre-calving. For the purpose of this report, data was used from weaning only, due to the measurements across the year being so highly correlated for this trait.
<b>Days to Conception 2-year-old Heifer:</b>	Represents the average number of Days to Conception of a sire’s daughters, from the time when the first heifer in the mob conceived and calculated from estimated Foetal Age ultrasound scanning. The trait combines both the ability to get pregnant (which is represented in the Pregnancy Rate trait), with credit for getting pregnant early in the mating period. Similar concept to the Days to Calving (DTC) trait used in BREEDPLAN and presented in sale catalogues but does not include variation in gestation length. This trait has been reported for heifers at their second breeding (as a 30-month-old heifer).
<b>Pregnancy Rate 2-year-old Heifer:</b>	Represents the percentage of a sire’s 2-year-old re-breeding daughters (heifers) in-calf at their second mating (natural mating).
<b>Hip Height:</b>	Height of an animal, measured at the hip and an indicator of frame size. Hip height is measured on progeny at 1 year of age (steers and heifers), 2 years of age (females only) and 3 years of age (females only). For the purpose of this report, data is reported for females measured at 2 and 3 years of age.
<b>Mature Cow Weight:</b>	Weight of a cow at 3 years and older. Cow weight is measured at mating, weaning, and pre-calving. For the purpose of this report, data was used from weaning only, due to the measurements across the year being so highly correlated for this trait.
<b>Milk:</b>	Milk represents the impact of a sire’s daughters on the weaning weight of their calves, beyond that from direct genetics alone. The milk results are expressed as a factor to add or subtract from weaning weight. The number of calves in this report (N), refers to the number of that sire’s maternal grand calves.





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