

TACE 

TransTasman Angus Cattle Evaluation

GENETIC BENCHMARKING REPORT

Angus Australia

AUGUST 2023

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Genetic Progress Summary

2017 to 2022

Date: July 31, 2023

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This report assesses the change in the average EBVs of Angus seedstock animals across the nominated five year period.

Trait	Units	Breed	
		Change	Av. Change / Yr
Calving Ease Direct	%	+1.6	+0.3
Calving Ease Daughters	%	+1.5	+0.3
Gestation Length	days	-0.8	-0.2
Birth Weight	kg	-0.4	-0.1
200 Day Growth	kg	+5.4	+1.1
400 Day Weight	kg	+10.1	+2.0
600 Day Weight	kg	+11.8	+2.4
Mature Cow Weight	kg	+8.1	+1.6
Milk	kg	+1.1	+0.2
Scrotal Size	cm	+0.4	+0.1
Days to Calving	days	-0.3	-0.1
Carcase Weight	kg	+7.1	+1.4
Carcase EMA	cm.sq	+1.2	+0.2
Carcase Rib Fat	mm	+0.1	+0.0
Carcase Rump Fat	mm	+0.0	+0.0
Retail Beef Yield	%	-0.2	+0.0
Carcase IMF	%	+0.6	+0.1
Docility	%	+2.8	+0.6
NFI-F	%	+0.1	+0.0
Claw Set	score	+0.0	+0.0
Foot Angle	score	+0.0	+0.0
Leg Angle	score	+0.0	+0.0
Angus Breeding (\$A)	\$	+29.7	+5.9
Domestic (\$D)	\$	+24.7	+4.9
Heavy Grain (\$GN)	\$	+41.1	+8.2
Heavy Grass(\$GS)	\$	+30.0	+6.0
Angus Breeding Low Feed Cost (\$A-L)	\$	+46.8	+9.4
Domestic Low Feed Cost (\$D-L)	\$	+40.4	+8.1
Heavy Grain Low Feed Cost (\$GN-L)	\$	+59.1	+11.8
Heavy Grass Low Feed Cost (\$GS-L)	\$	+52.4	+10.5
AngusPRO (\$PRO)	\$	+30.4	+6.1
Angus Terminal Sire (\$T)	\$	+25.5	+5.1

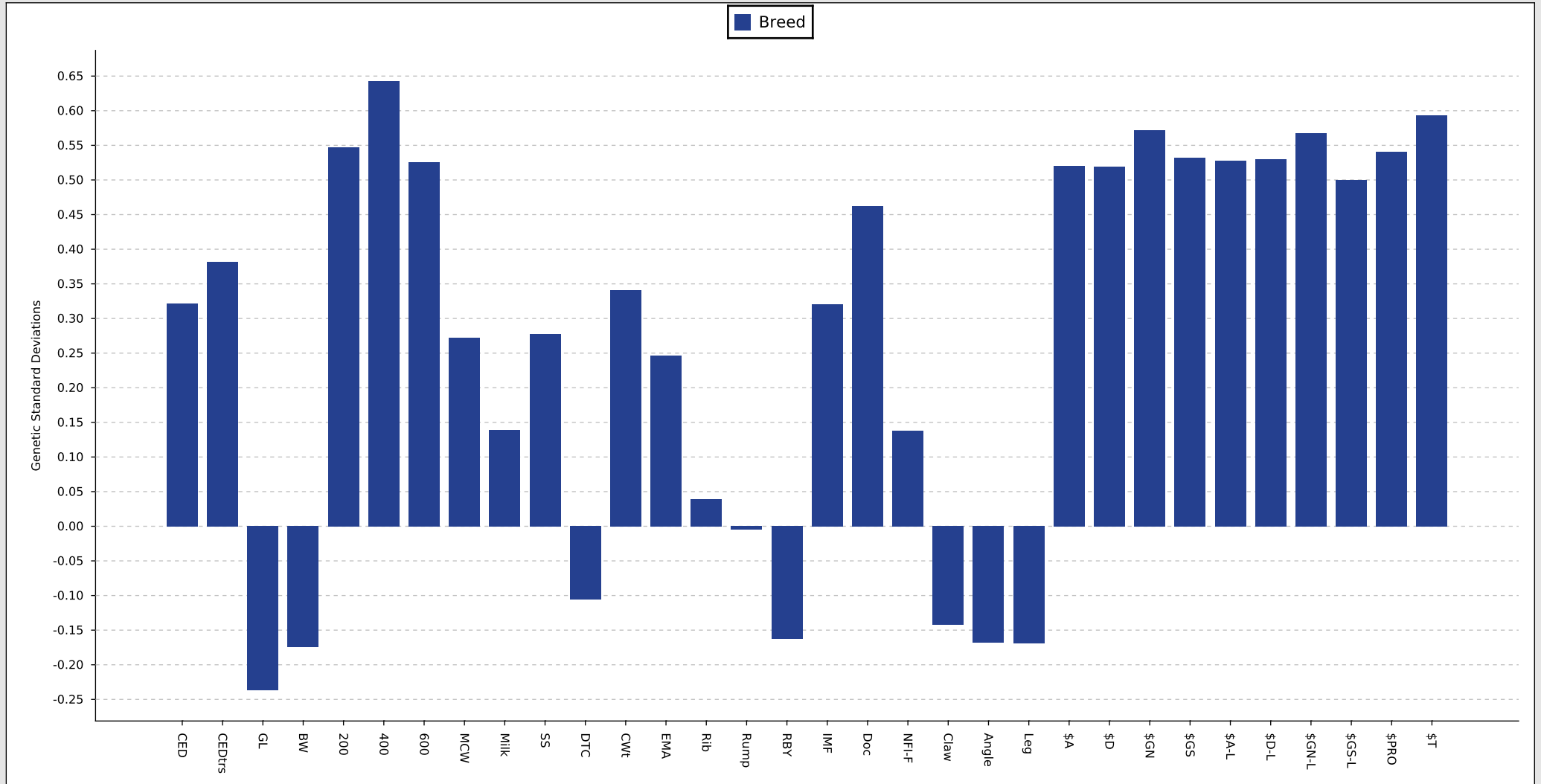
Genetic Progress Summary

Date: July 31, 2023

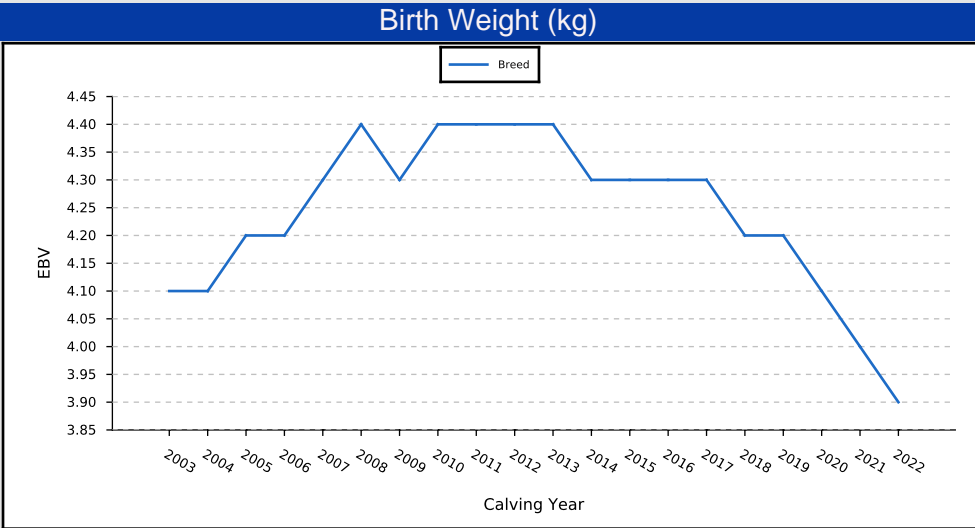
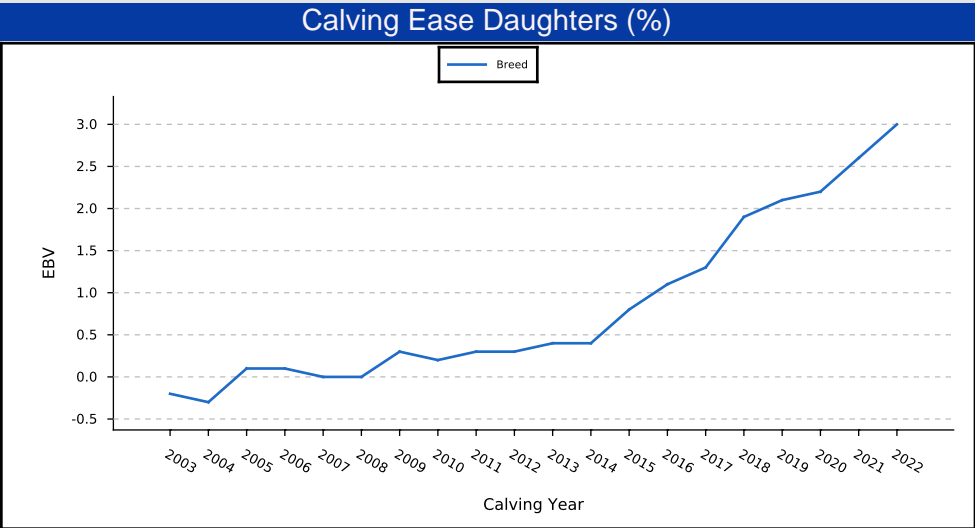
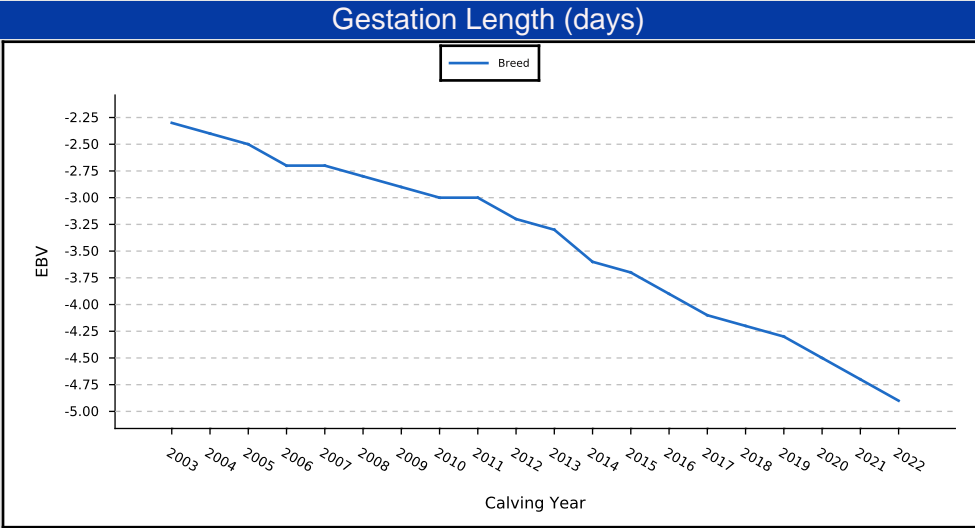
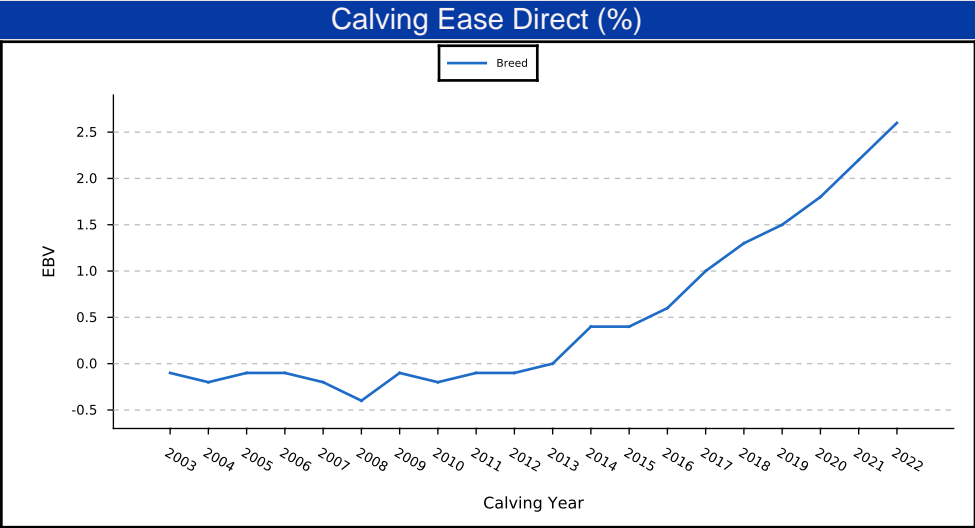
Relative Change in Each Trait - 2017 to 2022

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This report assesses the change in the average EBVs of Angus seedstock animals across the nominated five year period in standard deviation units (rather than the units of measurement), enabling comparison of the relative change that has occurred in individual traits.

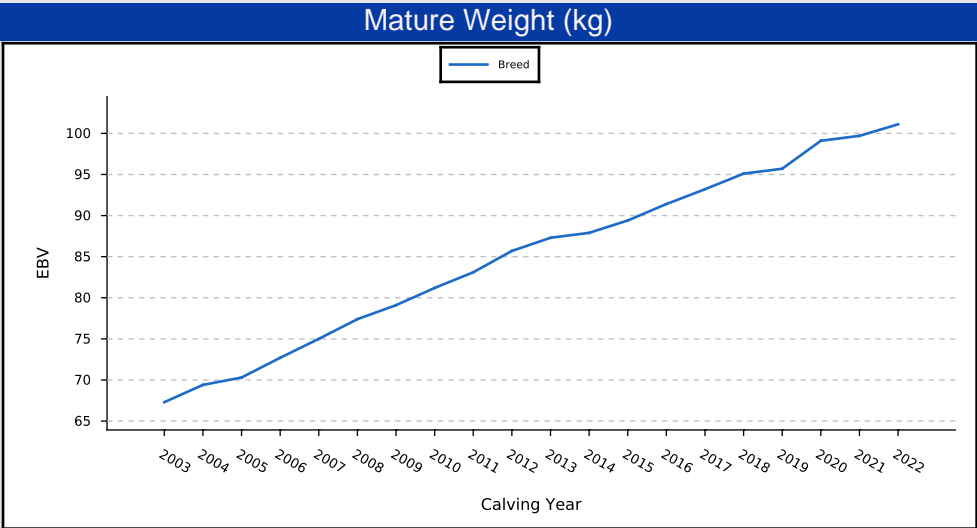
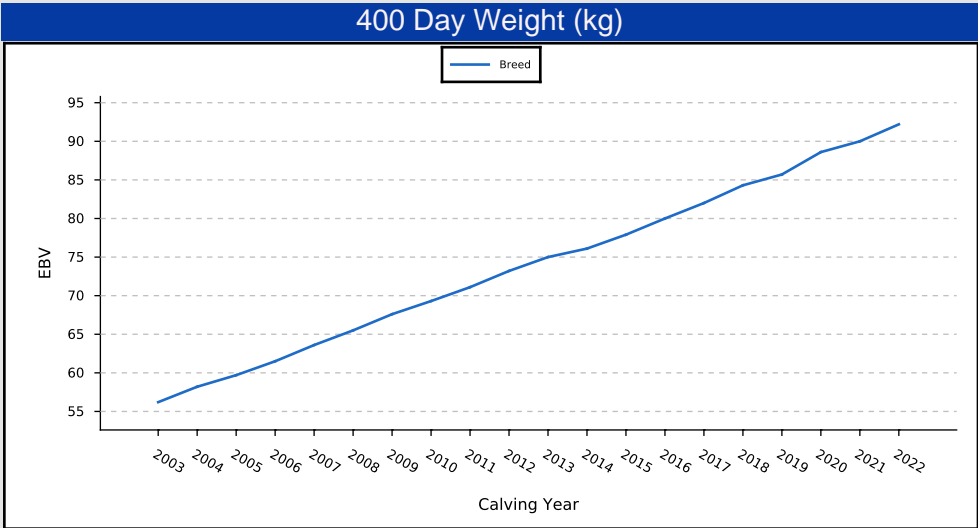
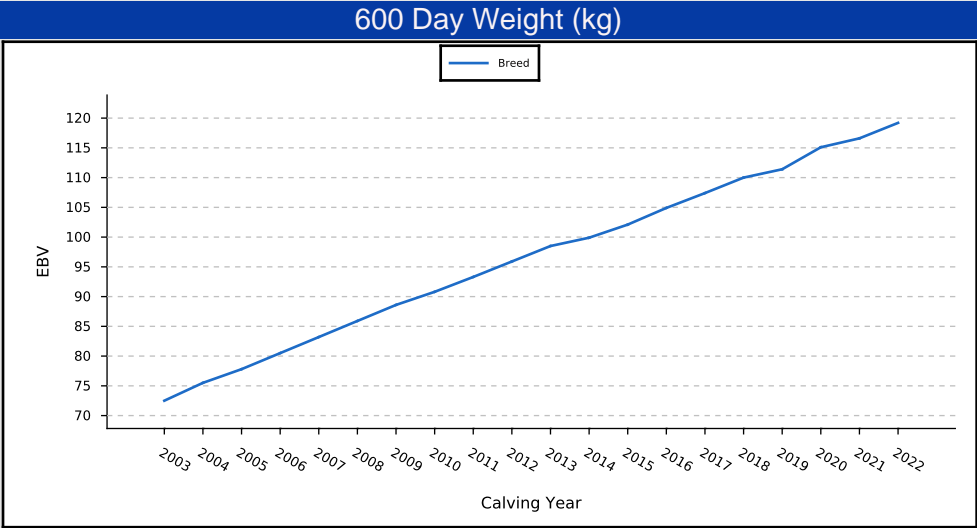
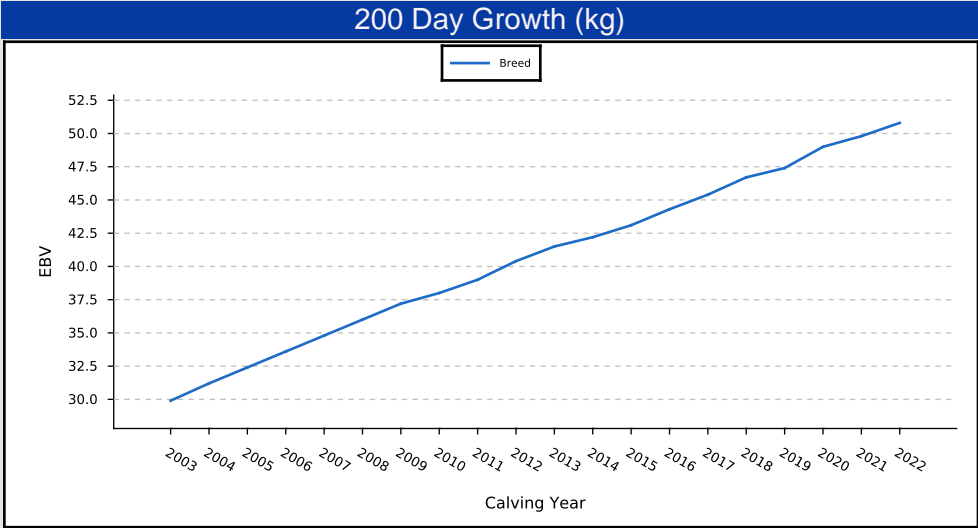


The reports below assess the change in the average EBVs of Angus seedstock animals born in each year for each respective trait.



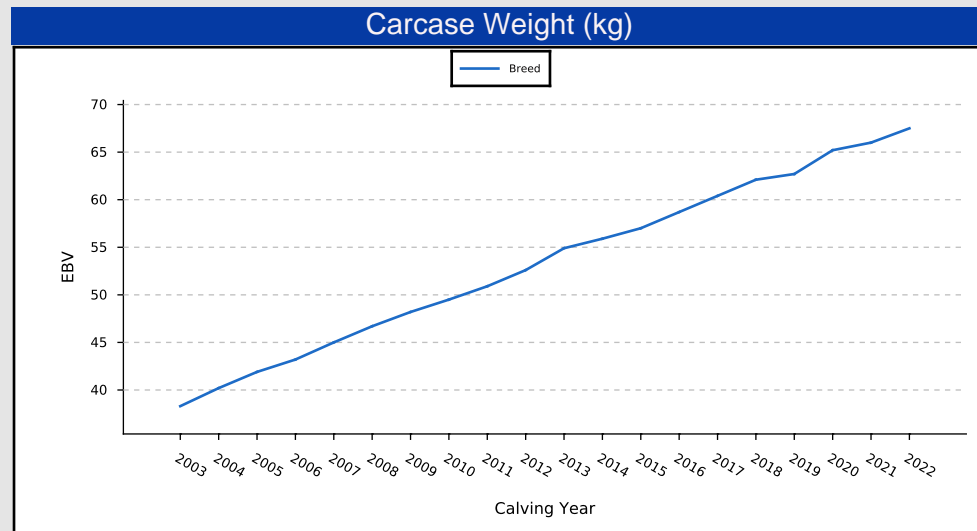
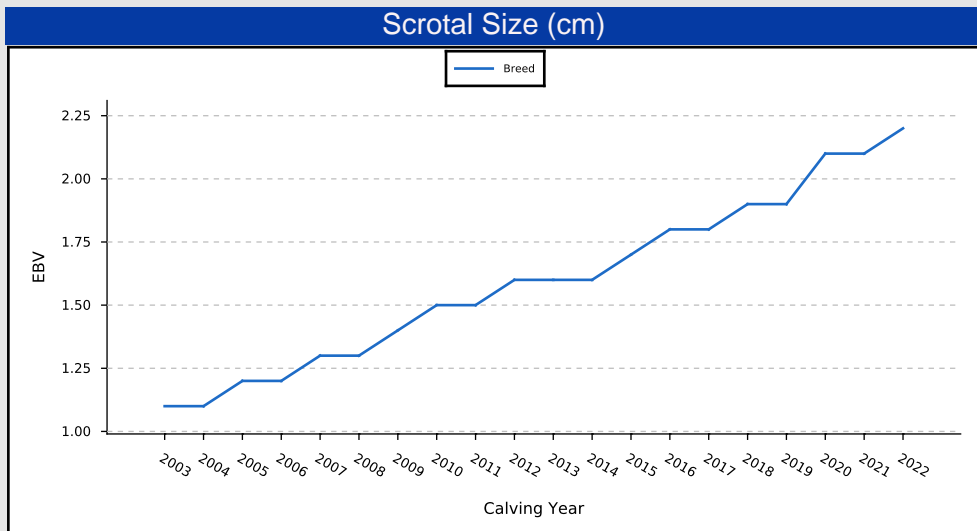
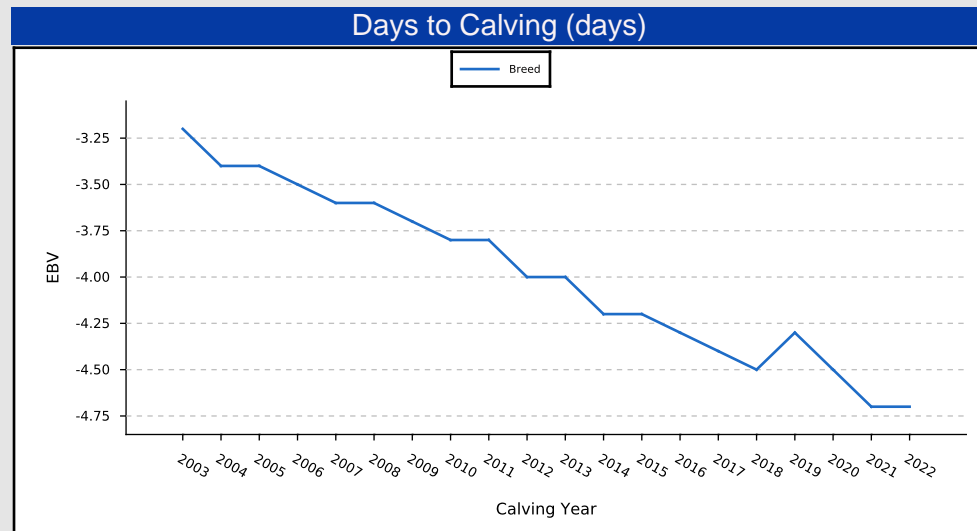
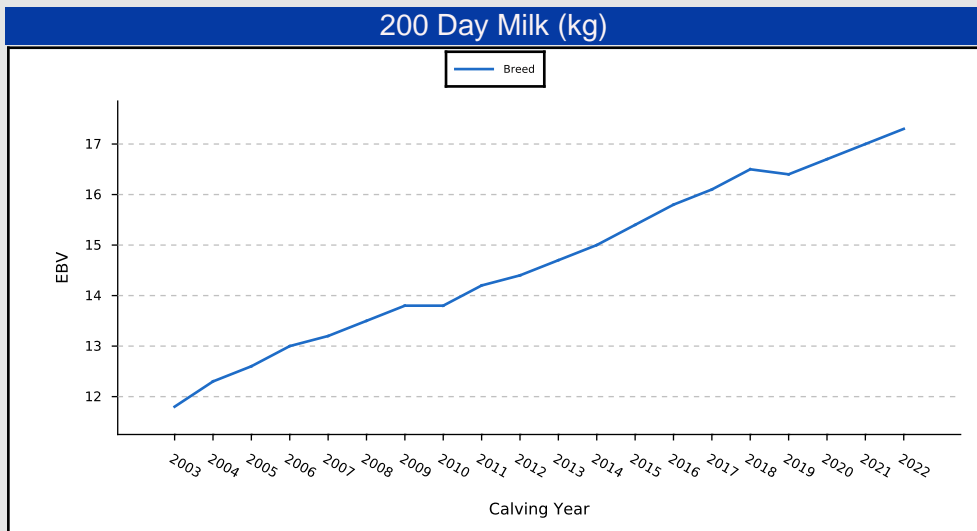
Genetic Progress By Trait

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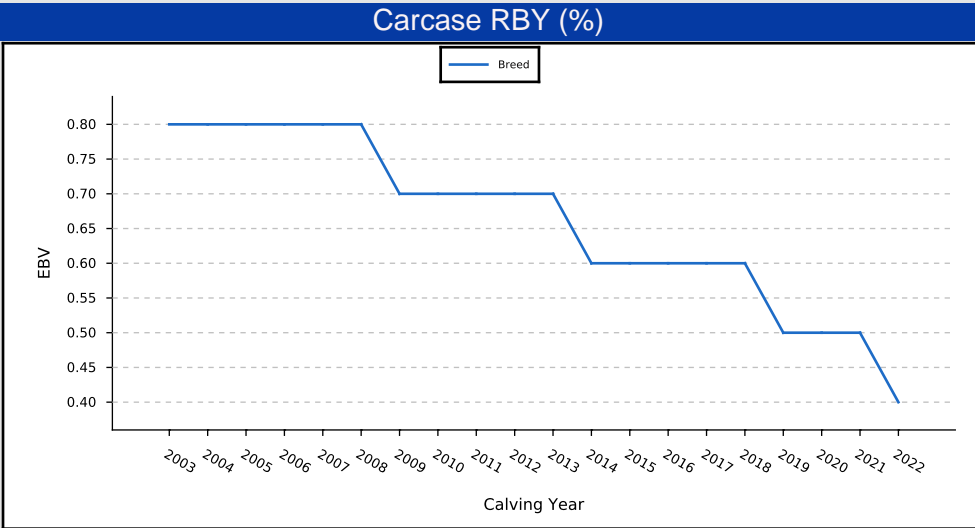
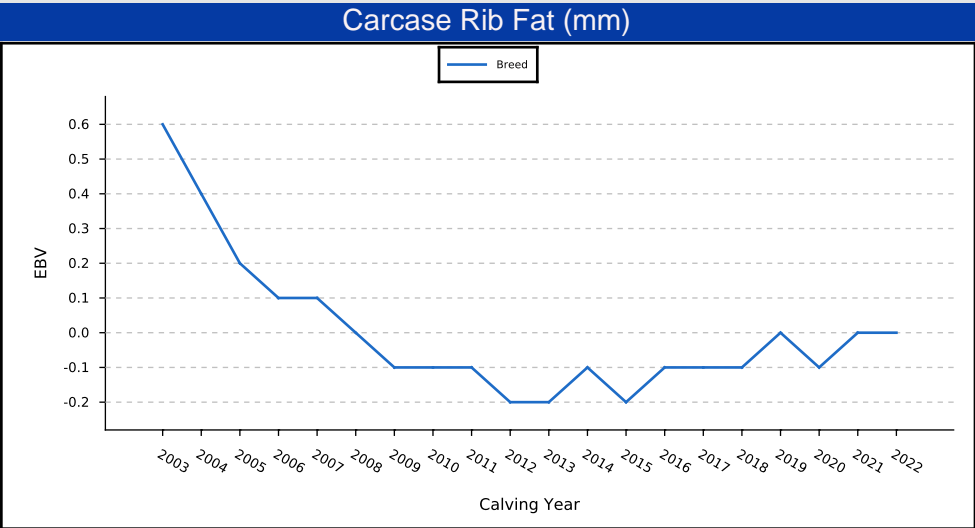
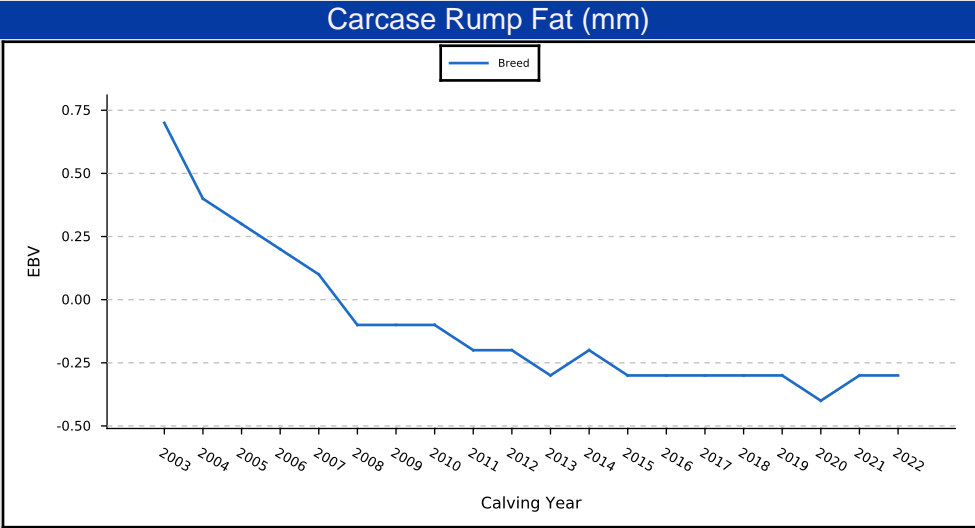
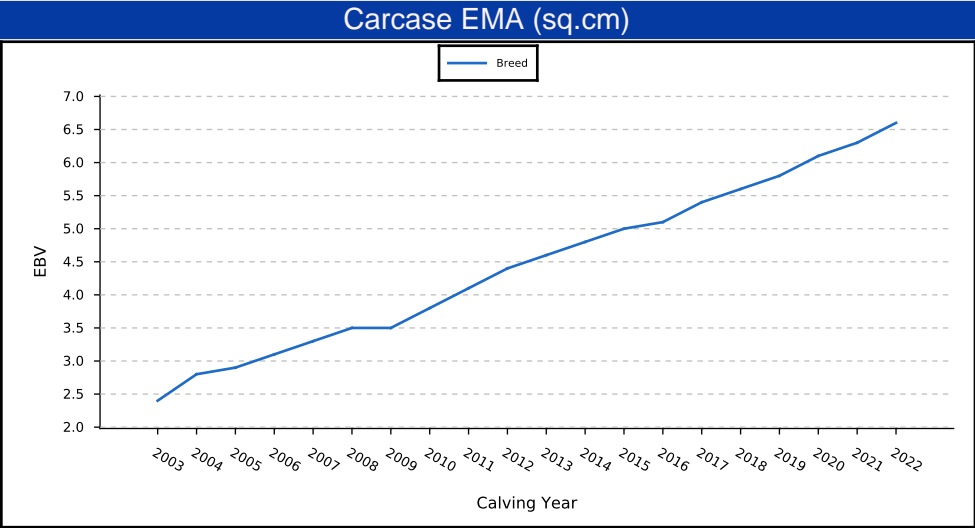
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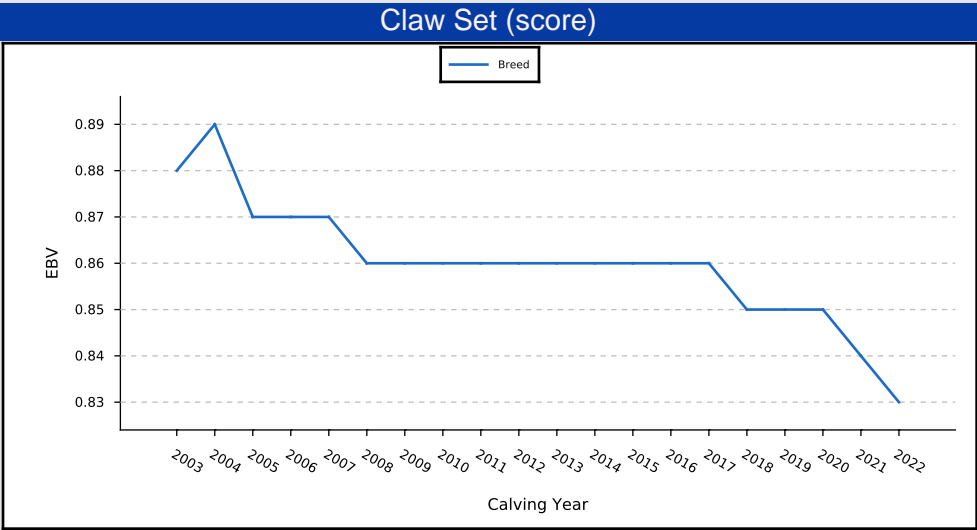
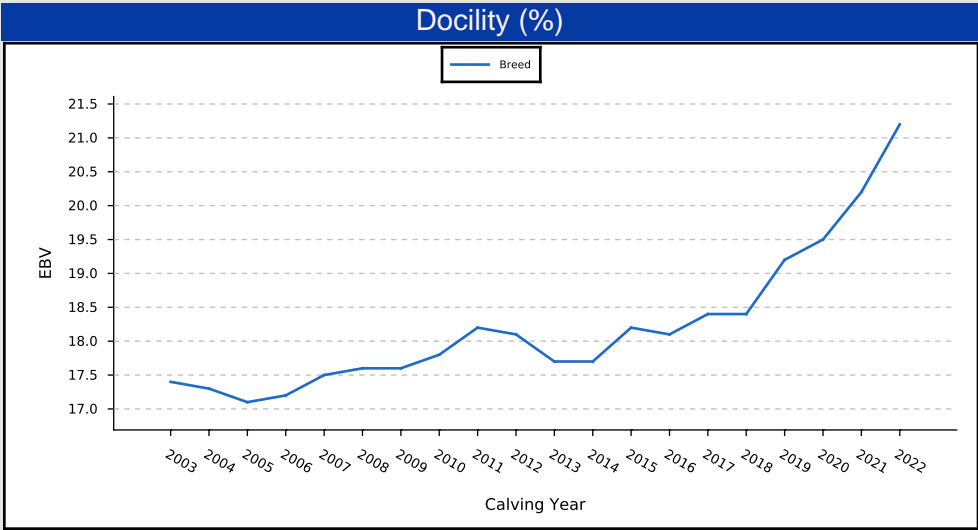
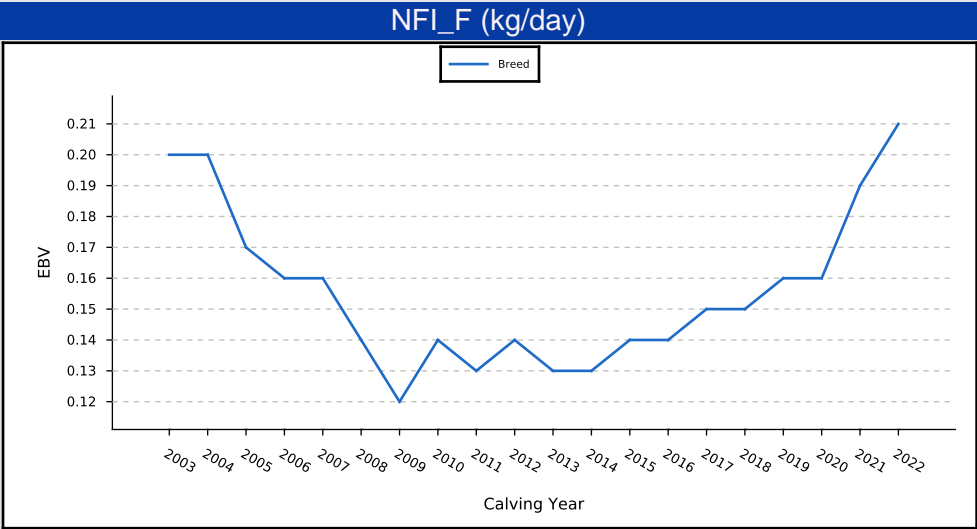
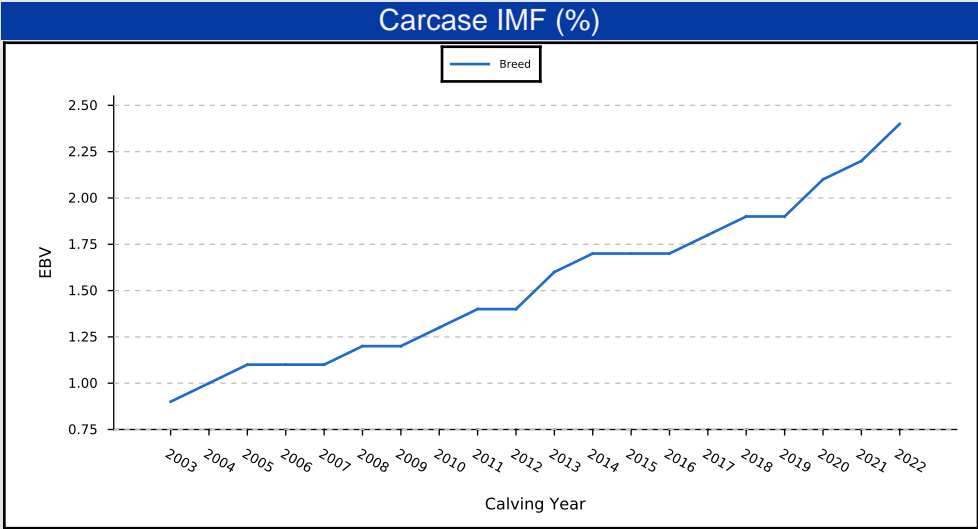
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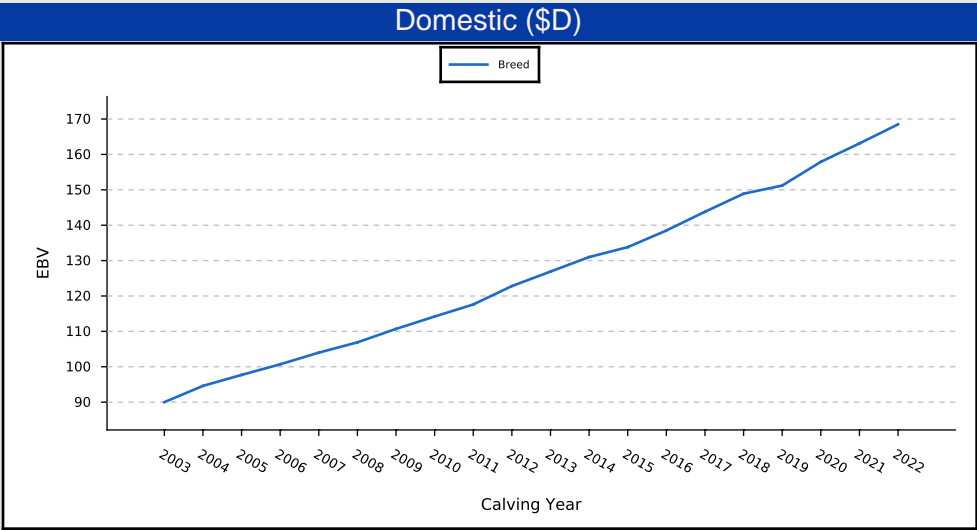
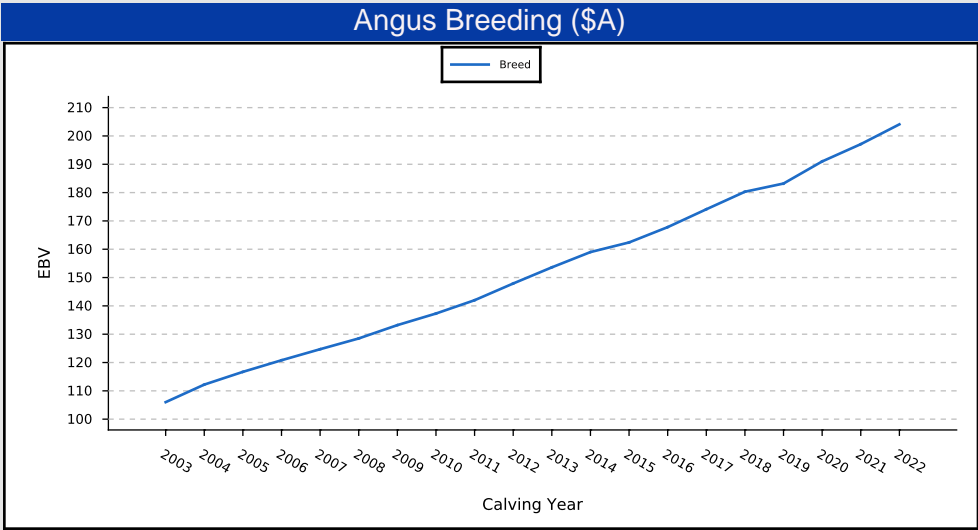
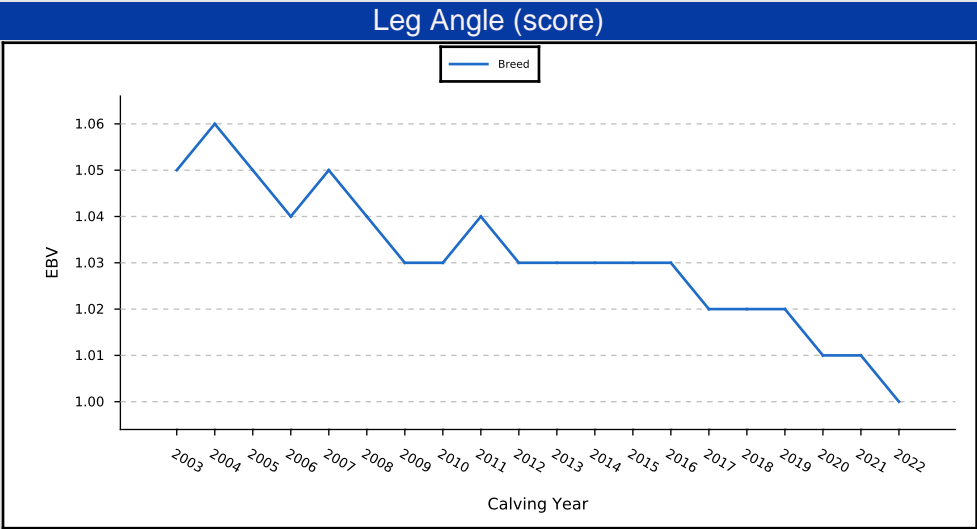
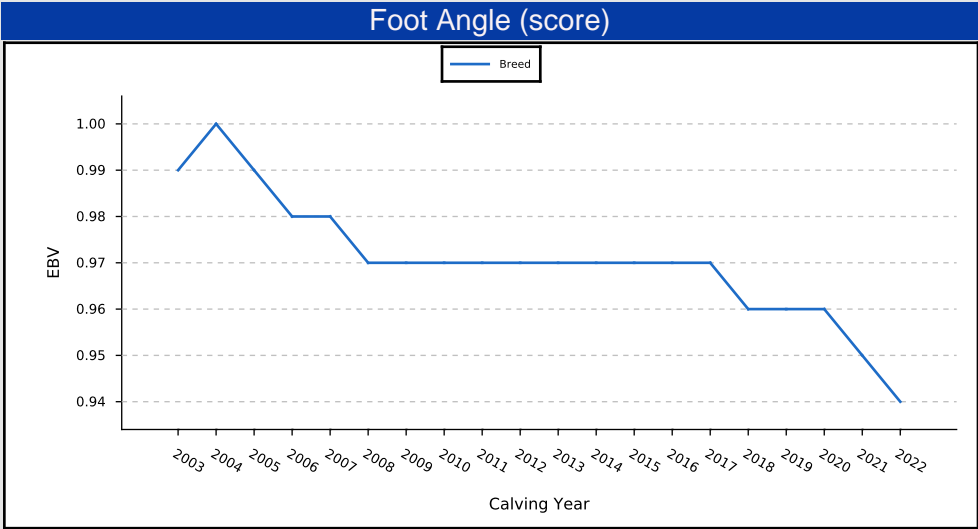


Genetic Progress By Trait

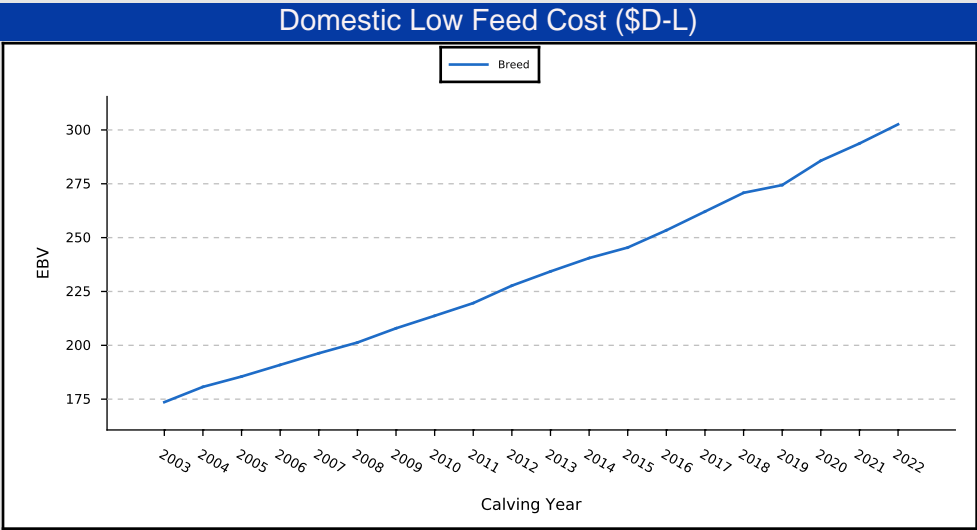
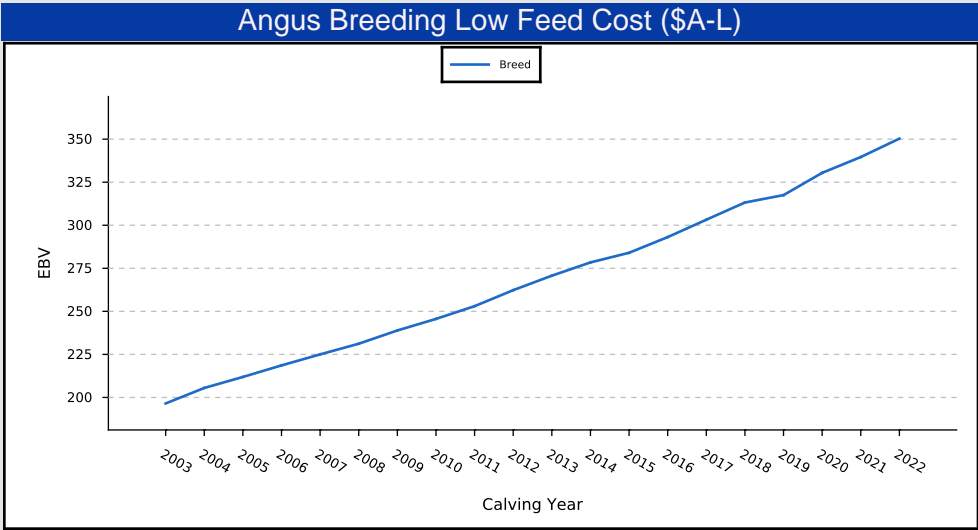
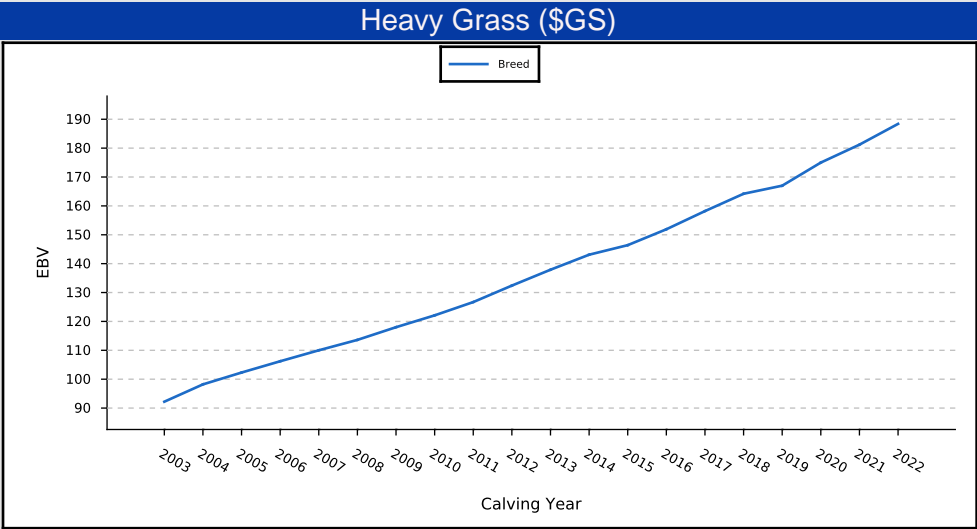
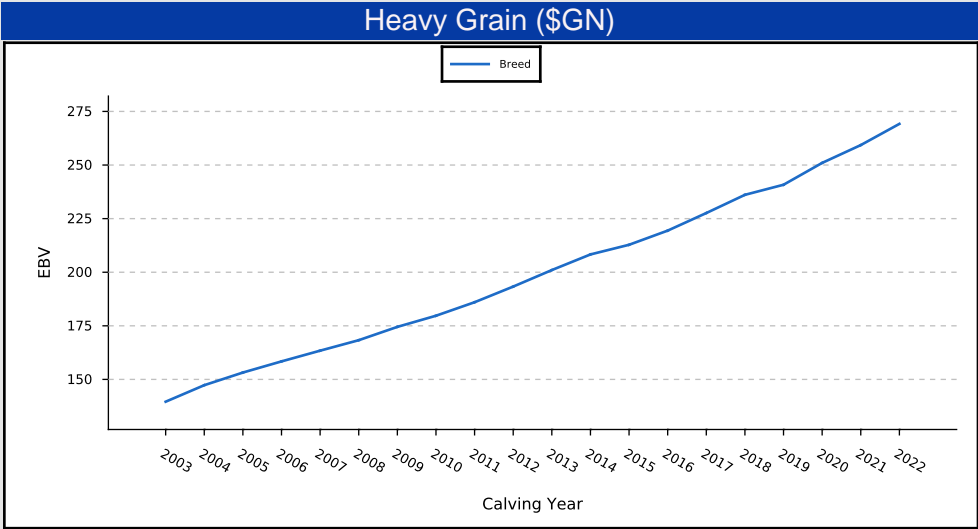
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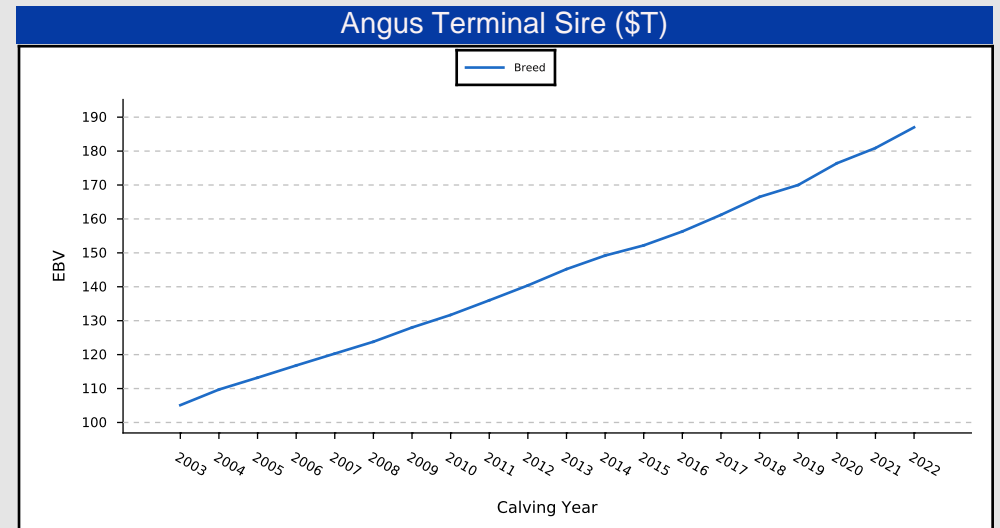
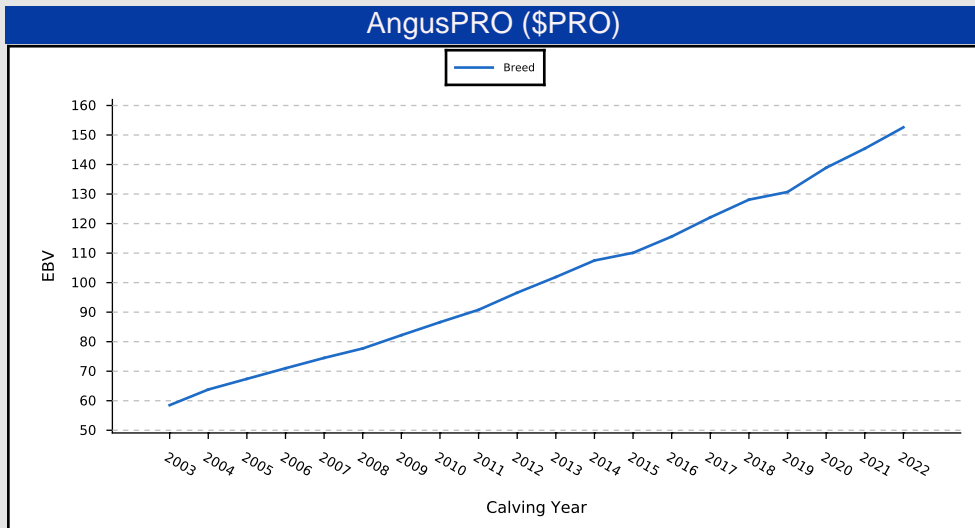
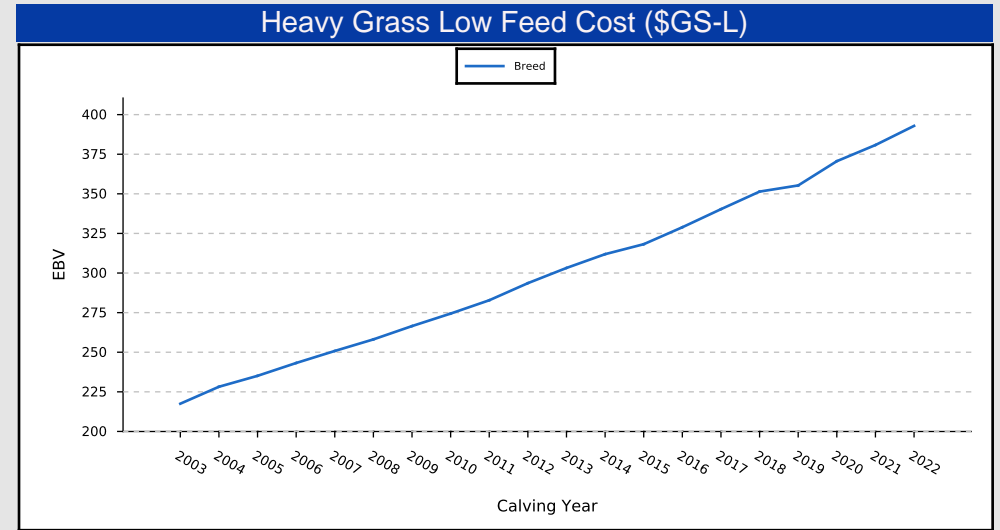
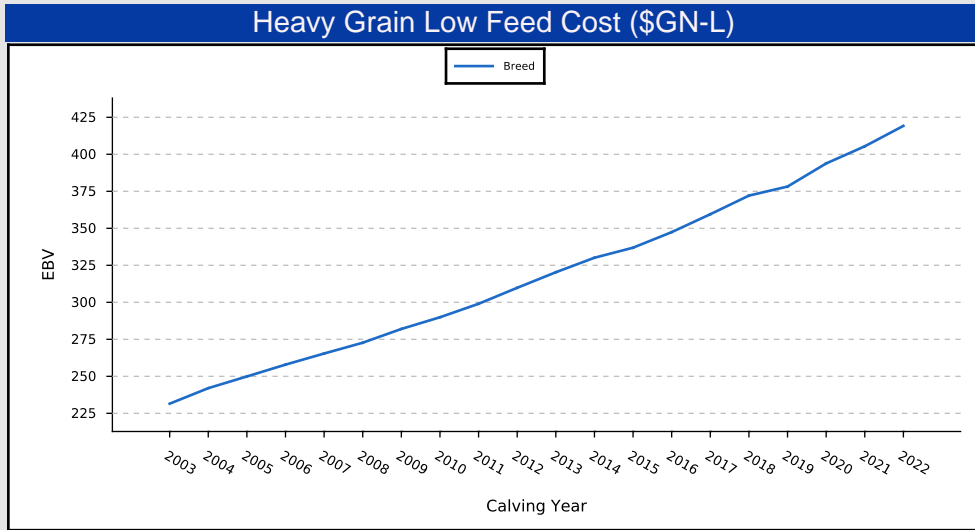


Genetic Progress By Trait

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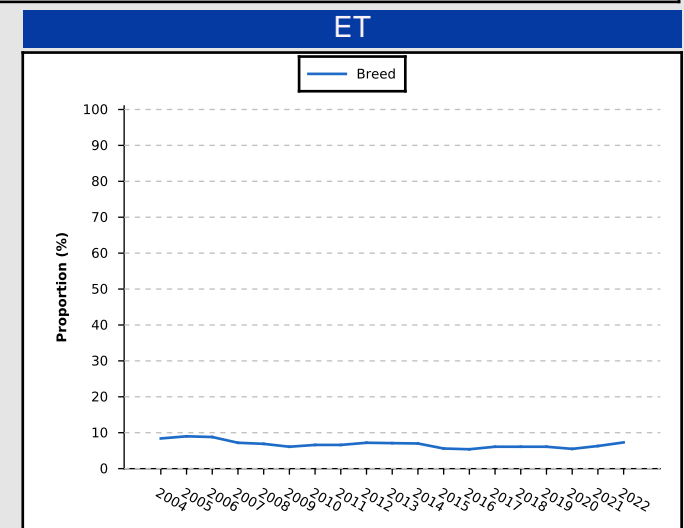
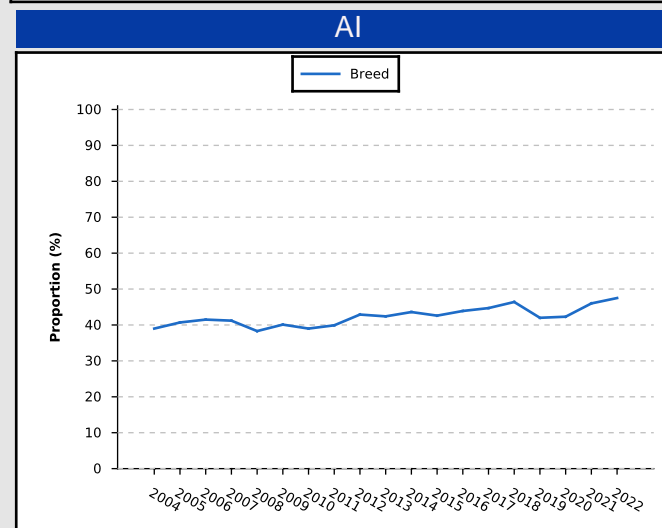
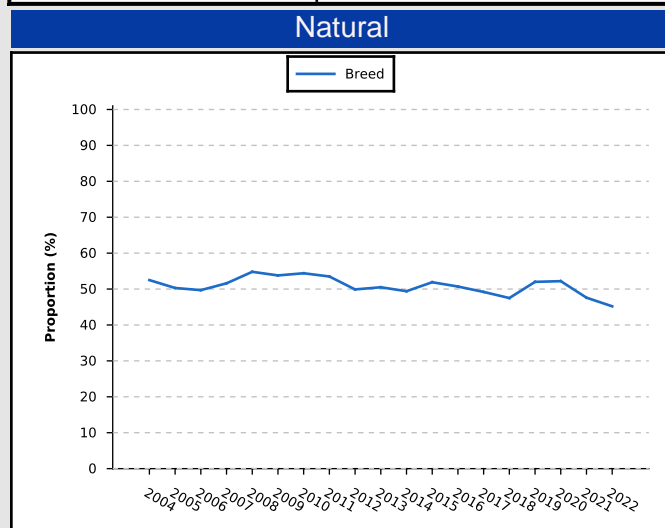
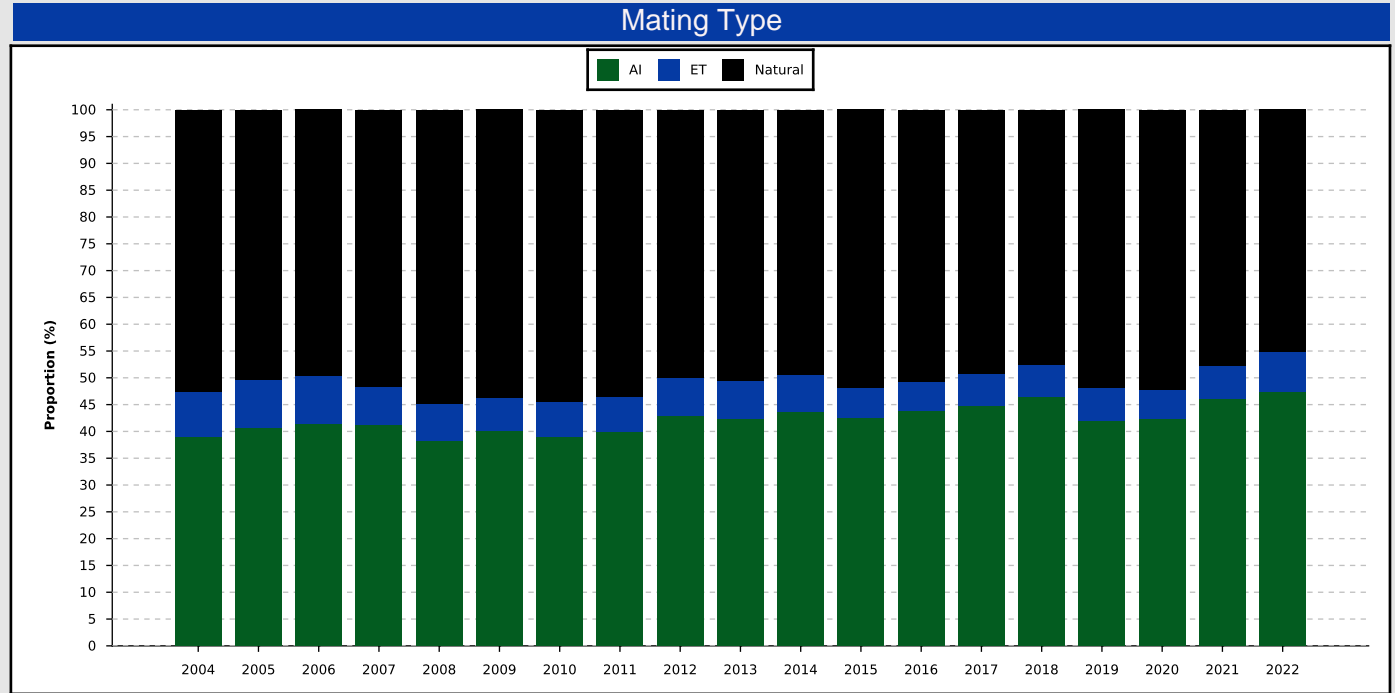
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The reports below assess the change in the average EBVs of Angus seedstock animals born in each year for each respective trait.



This report assesses the utilisation of reproductive technologies within the Angus breed by summarising the number of animals born in each year that have been bred by artificial insemination and embryo transfer.

Calving Year	Animals	Mating Type		
		Natural	AI	ET
2004	67042	35221	26169	5652
2005	69661	35035	28349	6277
2006	70727	35126	29344	6257
2007	67417	34800	27759	4858
2008	67822	37139	26000	4683
2009	66616	35859	26693	4064
2010	67269	36584	26266	4419
2011	73386	39232	29282	4872
2012	79451	39640	34099	5712
2013	81753	41321	34641	5791
2014	80609	39857	35110	5642
2015	81208	42126	34565	4517
2016	82166	41687	36081	4398
2017	85615	42125	38232	5258
2018	85706	40701	39809	5196
2019	85147	44245	35722	5180
2020	82123	42854	34774	4495
2021	93551	44552	43059	5940
2022	88313	39919	41973	6421



Generation Length

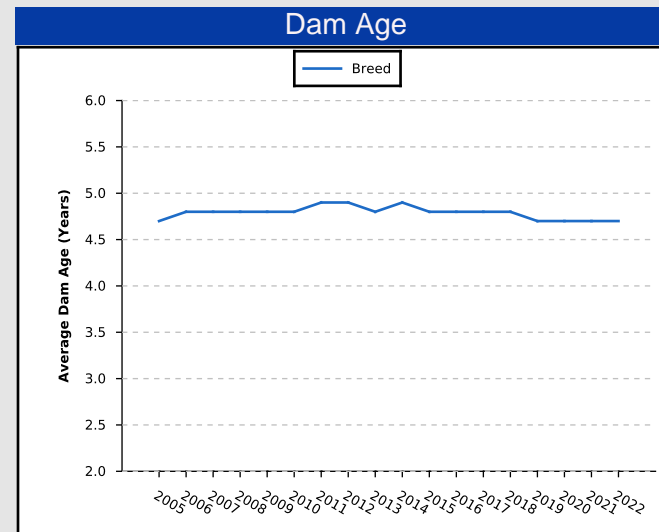
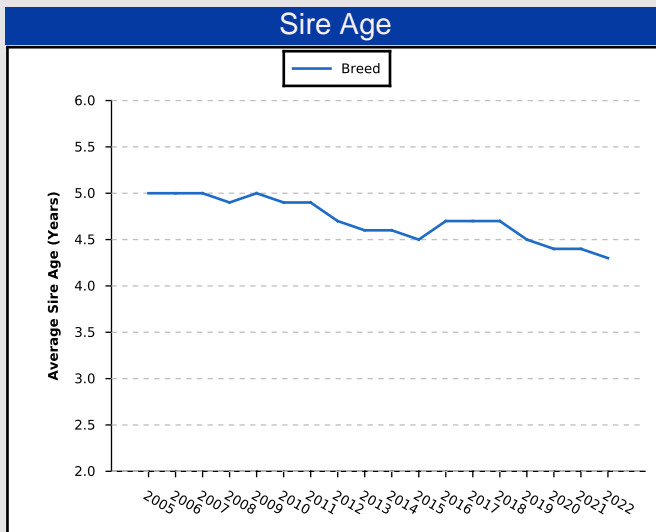
Average Sire and Dam Age By Year

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This report summarises the average age of the sires and dams of Angus seedstock animals over time. The statistics are calculated as the age of the sire and dam when their progeny are born, and are weighted according to the number of progeny that a sire or dam has in a particular year. For example, if a sire has 50 calves in a particular calving year, its age will make a greater contribution to the average age statistics than a sire with 5 calves.

Calving Year	Animals	Sire Age (Years)				Dam Age (Years)			
		All	Natural	AI	ET	All	Natural	AI	ET
2005	63445	5.0	3.6	6.3	7.9	4.7	4.6	4.5	6.3
2006	64553	5.0	3.7	6.2	7.7	4.8	4.7	4.4	6.4
2007	62609	5.0	3.7	6.3	7.6	4.8	4.7	4.4	6.4
2008	63343	4.9	3.7	6.4	7.8	4.8	4.8	4.4	6.7
2009	62864	5.0	3.7	6.5	7.9	4.8	4.7	4.5	6.9
2010	63342	4.9	3.7	6.1	7.6	4.8	4.8	4.5	6.5
2011	69553	4.9	3.7	6.1	7.6	4.9	4.9	4.5	6.8
2012	74895	4.7	3.7	5.6	6.7	4.9	4.9	4.5	6.7
2013	77107	4.6	3.7	5.4	6.4	4.8	4.8	4.5	6.8
2014	76011	4.6	3.7	5.4	6.7	4.9	4.9	4.5	6.9
2015	77592	4.5	3.7	5.3	6.7	4.8	4.8	4.5	6.9
2016	78169	4.7	3.8	5.5	6.7	4.8	4.9	4.5	6.8
2017	80693	4.7	3.8	5.5	6.6	4.8	4.8	4.5	6.8
2018	81034	4.7	3.7	5.5	6.5	4.8	4.8	4.5	6.9
2019	80715	4.5	3.6	5.3	6.8	4.7	4.7	4.4	6.5
2020	78578	4.4	3.6	5.2	6.0	4.7	4.7	4.3	6.8
2021	88837	4.4	3.5	5.2	6.5	4.7	4.7	4.3	6.9
2022	83094	4.3	3.5	4.9	5.8	4.7	4.7	4.3	6.7



Genetic Diversity

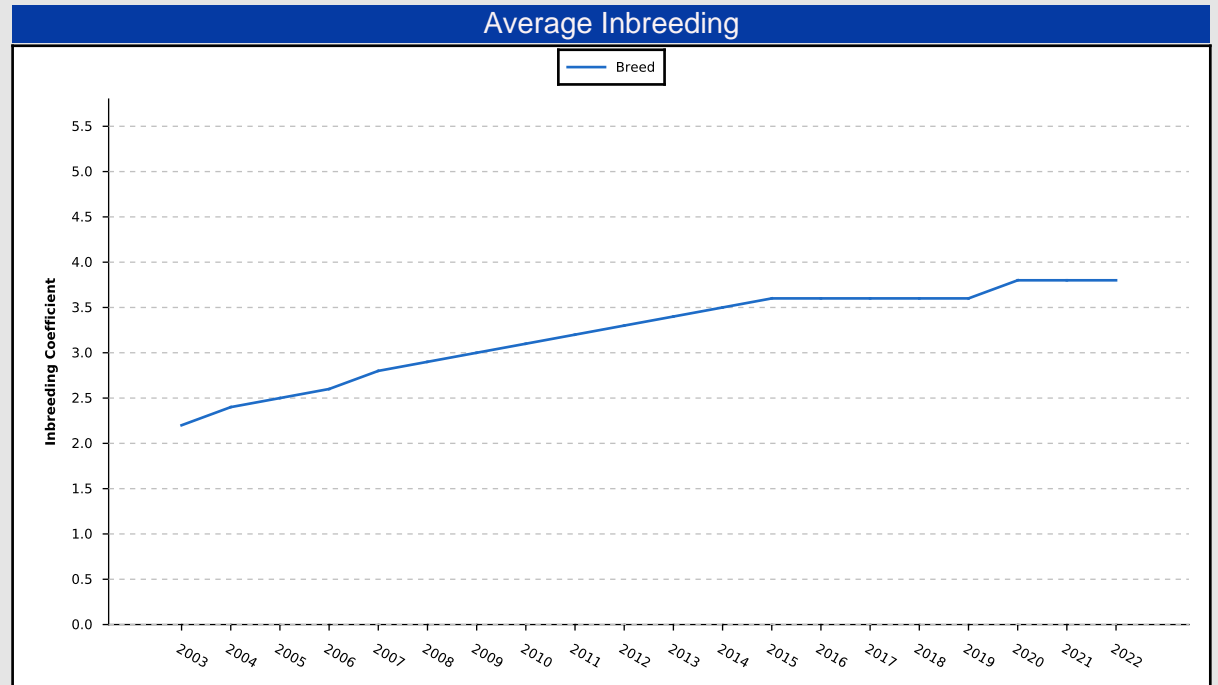
Average Inbreeding By Year

Date: July 31, 2023

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This report assesses the genetic diversity within the Angus breed by summarising the average inbreeding co-efficient of animals born in each year.

Calving Year	Animals	Inbreeding Coefficient (%)
		Breed
2003	59483	2.2
2004	61480	2.4
2005	63445	2.5
2006	64553	2.6
2007	62609	2.8
2008	63343	2.9
2009	62864	3.0
2010	63342	3.1
2011	69553	3.2
2012	74895	3.3
2013	77107	3.4
2014	76011	3.5
2015	77592	3.6
2016	78169	3.6
2017	80693	3.6
2018	81034	3.6
2019	80715	3.6
2020	78578	3.8
2021	88837	3.8
2022	83094	3.8



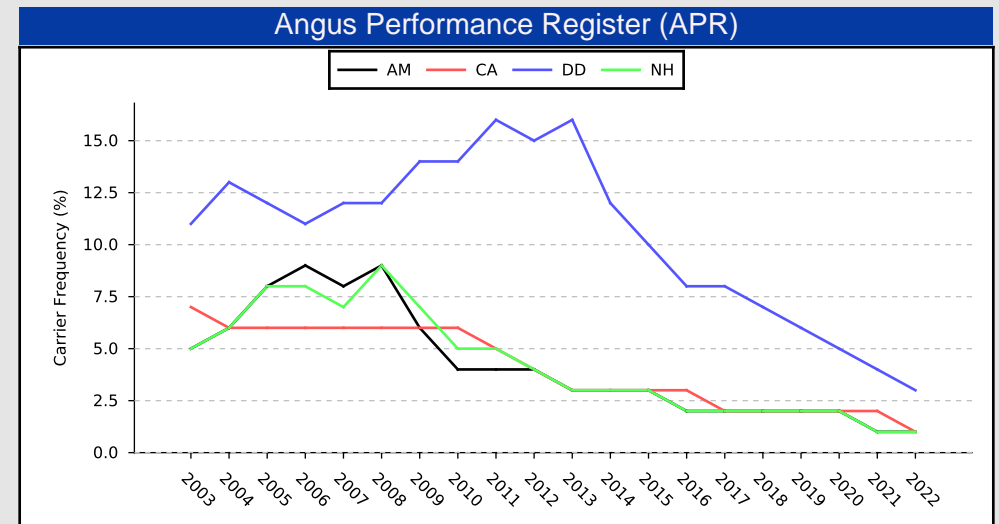
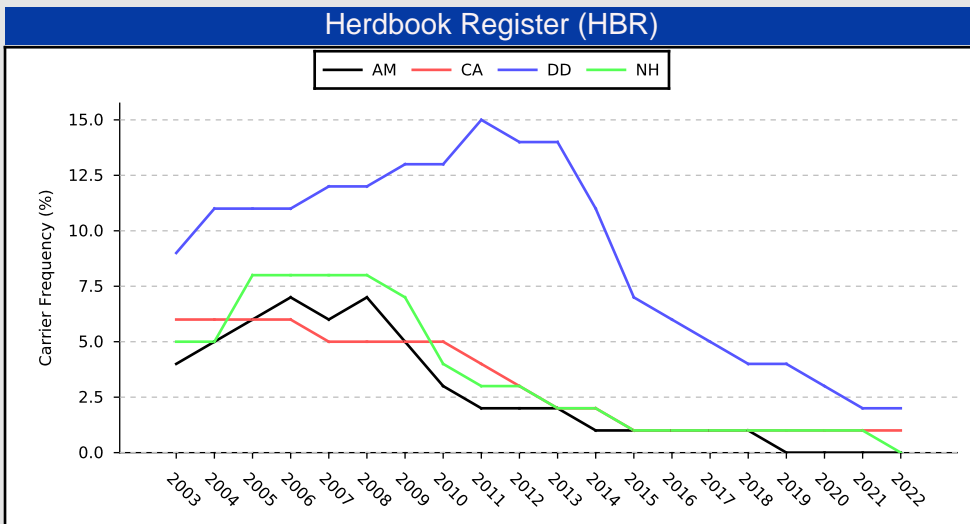
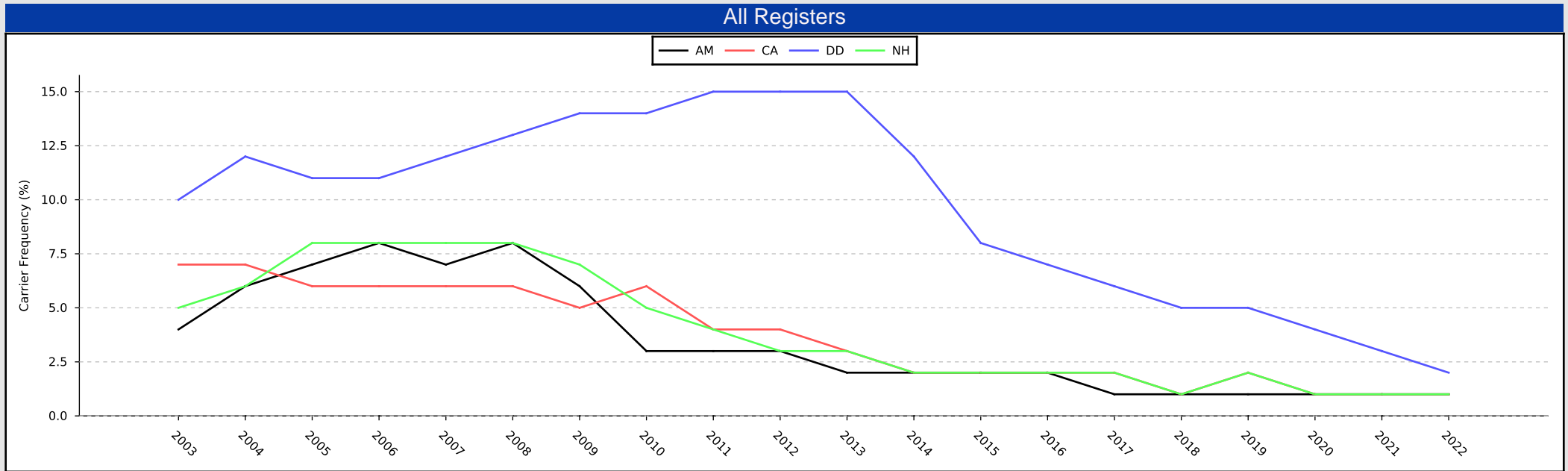
Genetic Conditions

Carrier Frequency By Register

Date: July 31, 2023

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This report assesses the frequency of carriers for recessive genetic conditions over time. The statistics are calculated based on the results of the gene probability analyses conducted by Angus Australia.



Appendix 2 Breed Genetic Trends

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This report provides the average EBVs for all animals recorded with Angus Australia over time.

Year	Count	Estimated Breeding Values																															
		Calv-Ease		Birth		Growth				Fert		Carcase					Feed		Temp	Structural			Selection Index										
		Dir	Dtrs	GL	BW	200	400	600	Mwt	Milk	SS	DC	CW	EMA	RIB	P8	RBV	IMF	NFI-F	DOC	Claw	Angle	Leg	\$A	\$D	\$GN	\$GS	\$A-L	\$D-L	\$GN-L	\$GS-L	\$PRO	\$T
2003	59483	-0.1	-0.2	-2.3	+4.1	+30	+56	+73	+67	+12	+1.1	-3.2	+38	+2.4	+0.6	+0.7	+0.8	+0.9	+0.20	+17	+0.88	+0.99	+1.05	+106	+90	+140	+92	+197	+174	+232	+218	+59	+105
2004	61480	-0.2	-0.3	-2.4	+4.1	+31	+58	+76	+69	+12	+1.1	-3.4	+40	+2.8	+0.4	+0.4	+0.8	+1.0	+0.20	+17	+0.89	+1.00	+1.06	+112	+95	+147	+98	+206	+181	+242	+228	+64	+110
2005	63445	-0.1	+0.1	-2.5	+4.2	+32	+60	+78	+70	+13	+1.2	-3.4	+42	+2.9	+0.2	+0.3	+0.8	+1.1	+0.17	+17	+0.87	+0.99	+1.05	+117	+98	+153	+102	+212	+186	+250	+235	+67	+113
2006	64553	-0.1	+0.1	-2.7	+4.2	+34	+62	+81	+73	+13	+1.2	-3.5	+43	+3.1	+0.1	+0.2	+0.8	+1.1	+0.16	+17	+0.87	+0.98	+1.04	+121	+101	+158	+106	+219	+191	+258	+243	+71	+117
2007	62609	-0.2	+0.0	-2.7	+4.3	+35	+64	+83	+75	+13	+1.3	-3.6	+45	+3.3	+0.1	+0.1	+0.8	+1.1	+0.16	+18	+0.87	+0.98	+1.05	+125	+104	+163	+110	+225	+196	+265	+251	+75	+120
2008	63343	-0.4	+0.0	-2.8	+4.4	+36	+66	+86	+77	+14	+1.3	-3.6	+47	+3.5	+0.0	-0.1	+0.8	+1.2	+0.14	+18	+0.86	+0.97	+1.04	+129	+107	+168	+114	+231	+201	+273	+258	+78	+124
2009	62864	-0.1	+0.3	-2.9	+4.3	+37	+68	+89	+79	+14	+1.4	-3.7	+48	+3.5	-0.1	-0.1	+0.7	+1.2	+0.12	+18	+0.86	+0.97	+1.03	+133	+111	+175	+118	+239	+208	+282	+267	+82	+128
2010	63342	-0.2	+0.2	-3.0	+4.4	+38	+69	+91	+81	+14	+1.5	-3.8	+50	+3.8	-0.1	-0.1	+0.7	+1.3	+0.14	+18	+0.86	+0.97	+1.03	+137	+114	+180	+122	+246	+214	+290	+274	+87	+132
2011	69553	-0.1	+0.3	-3.0	+4.4	+39	+71	+93	+83	+14	+1.5	-3.8	+51	+4.1	-0.1	-0.2	+0.7	+1.4	+0.13	+18	+0.86	+0.97	+1.04	+142	+118	+186	+127	+253	+220	+299	+283	+91	+136
2012	74895	-0.1	+0.3	-3.2	+4.4	+40	+73	+96	+86	+14	+1.6	-4.0	+53	+4.4	-0.2	-0.2	+0.7	+1.4	+0.14	+18	+0.86	+0.97	+1.03	+148	+123	+193	+132	+262	+228	+310	+294	+97	+140
2013	77107	+0.0	+0.4	-3.3	+4.4	+42	+75	+99	+87	+15	+1.6	-4.0	+55	+4.6	-0.2	-0.3	+0.7	+1.6	+0.13	+18	+0.86	+0.97	+1.03	+154	+127	+201	+138	+271	+234	+320	+303	+102	+145
2014	76011	+0.4	+0.4	-3.6	+4.3	+42	+76	+100	+88	+15	+1.6	-4.2	+56	+4.8	-0.1	-0.2	+0.6	+1.7	+0.13	+18	+0.86	+0.97	+1.03	+159	+131	+208	+143	+278	+241	+330	+312	+108	+149
2015	77592	+0.4	+0.8	-3.7	+4.3	+43	+78	+102	+89	+15	+1.7	-4.2	+57	+5.0	-0.2	-0.3	+0.6	+1.7	+0.14	+18	+0.86	+0.97	+1.03	+162	+134	+213	+146	+284	+245	+337	+318	+110	+152
2016	78169	+0.6	+1.1	-3.9	+4.3	+44	+80	+105	+91	+16	+1.8	-4.3	+59	+5.1	-0.1	-0.3	+0.6	+1.7	+0.14	+18	+0.86	+0.97	+1.03	+168	+139	+219	+152	+293	+253	+347	+329	+116	+156
2017	80693	+1.0	+1.3	-4.1	+4.3	+45	+82	+107	+93	+16	+1.8	-4.4	+60	+5.4	-0.1	-0.3	+0.6	+1.8	+0.15	+18	+0.86	+0.97	+1.02	+174	+144	+228	+158	+303	+262	+360	+340	+122	+161
2018	81034	+1.3	+1.9	-4.2	+4.2	+47	+84	+110	+95	+17	+1.9	-4.5	+62	+5.6	-0.1	-0.3	+0.6	+1.9	+0.15	+18	+0.85	+0.96	+1.02	+180	+149	+236	+164	+313	+271	+372	+351	+128	+167
2019	80715	+1.5	+2.1	-4.3	+4.2	+47	+86	+111	+96	+16	+1.9	-4.3	+63	+5.8	+0.0	-0.3	+0.5	+1.9	+0.16	+19	+0.85	+0.96	+1.02	+183	+151	+241	+167	+318	+274	+378	+355	+131	+170
2020	78578	+1.8	+2.2	-4.5	+4.1	+49	+89	+115	+99	+17	+2.1	-4.5	+65	+6.1	-0.1	-0.4	+0.5	+2.1	+0.16	+20	+0.85	+0.96	+1.01	+191	+158	+251	+175	+330	+286	+394	+371	+139	+176
2021	88837	+2.2	+2.6	-4.7	+4.0	+50	+90	+117	+100	+17	+2.1	-4.7	+66	+6.3	+0.0	-0.3	+0.5	+2.2	+0.19	+20	+0.84	+0.95	+1.01	+197	+163	+259	+181	+340	+294	+405	+381	+145	+181
2022	83094	+2.6	+3.0	-4.9	+3.9	+51	+92	+119	+101	+17	+2.2	-4.7	+68	+6.6	+0.0	-0.3	+0.4	+2.4	+0.21	+21	+0.83	+0.94	+1.00	+204	+169	+269	+188	+350	+303	+419	+393	+153	+187

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