



GENETIC BENCHMARKING REPORT

Angus Australia

MARCH 2024

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Genetic Progress Summary

2017 to 2022

Date: February 28,

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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	%	+1.1	+0.2
Calving Ease Daughters	%	+1.4	+0.3
Gestation Length	days	-0.8	-0.2
Birth Weight	kg	-0.4	-0.1
200 Day Growth	kg	+4.7	+0.9
400 Day Weight	kg	+8.7	+1.7
600 Day Weight	kg	+10.1	+2.0
Mature Cow Weight	kg	+7.2	+1.4
Milk	kg	+0.9	+0.2
Scrotal Size	cm	+0.3	+0.1
Days to Calving	days	-0.1	+0.0
Carcase Weight	kg	+6.3	+1.3
Carcase EMA	cm.sq	+1.1	+0.2
Carcase Rib Fat	mm	+0.1	+0.0
Carcase Rump Fat	mm	+0.1	+0.0
Retail Beef Yield	%	-0.1	+0.0
Carcase IMF	%	+0.5	+0.1
Docility	%	+2.7	+0.5
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)	\$	+24.8	+5.0
Domestic (\$D)	\$	+20.3	+4.1
Heavy Grain (\$GN)	\$	+35.0	+7.0
Heavy Grass(\$GS)	\$	+25.0	+5.0
Angus Breeding Low Feed Cost (\$A-L)	\$	+39.3	+7.9
Domestic Low Feed Cost (\$D-L)	\$	+33.5	+6.7
Heavy Grain Low Feed Cost (\$GN-L)	\$	+50.2	+10.0
Heavy Grass Low Feed Cost (\$GS-L)	\$	+43.6	+8.7
AngusPRO (\$PRO)	\$	+25.4	+5.1
Angus Terminal Sire (\$T)	\$	+22.0	+4.4

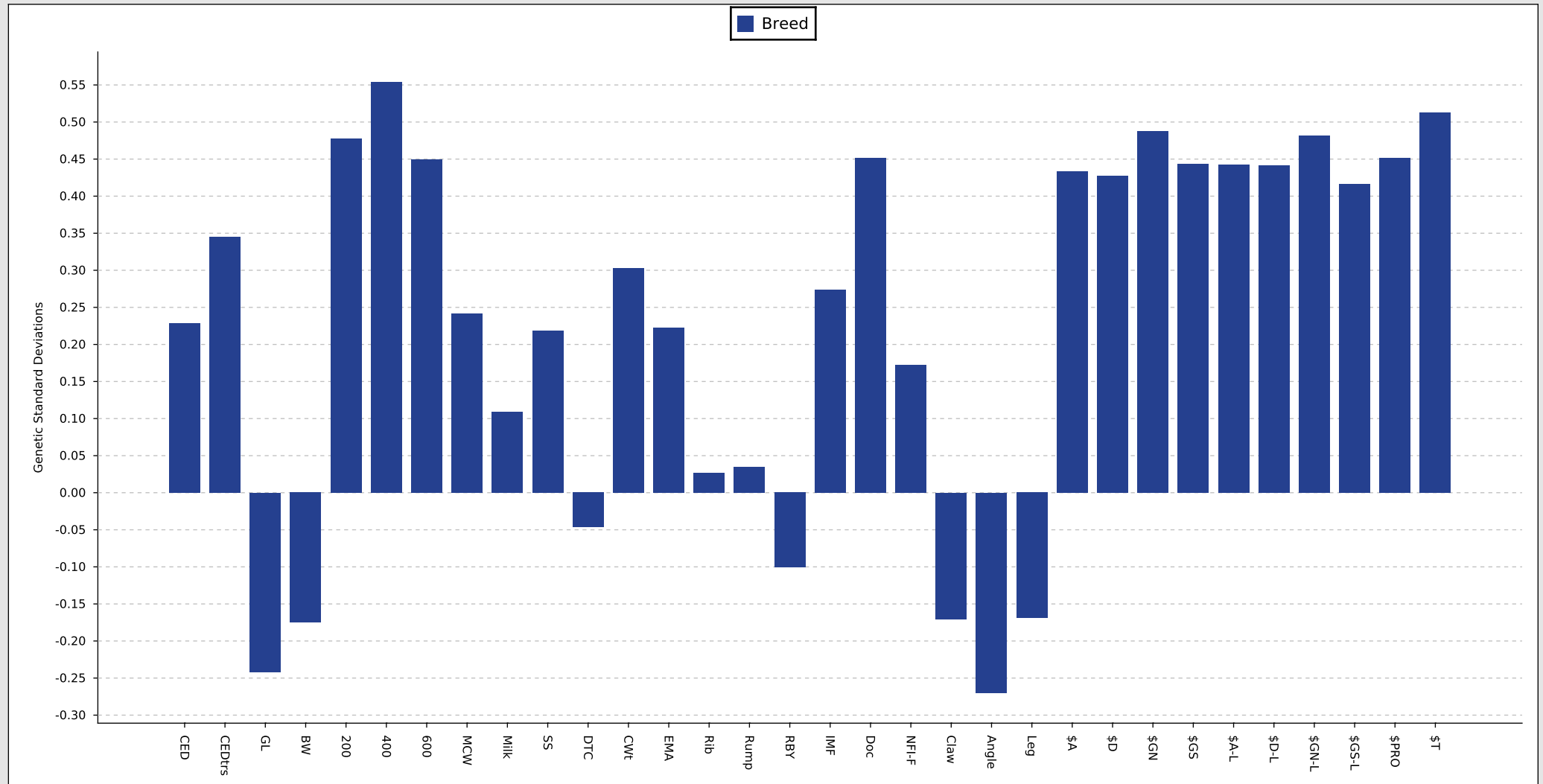
Genetic Progress Summary

Relative Change in Each Trait - 2017 to 2022

Date: February 28,

Page: 2

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.



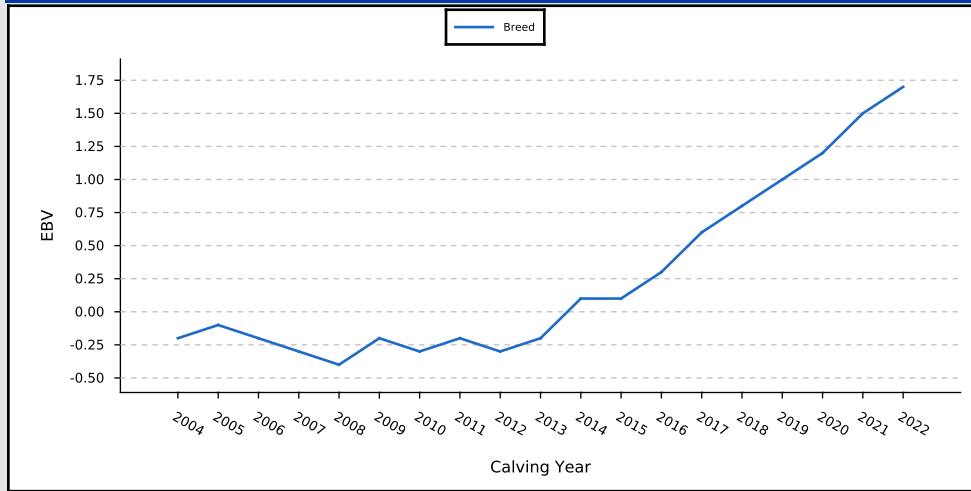
Genetic Progress By Trait

Date: February 28,

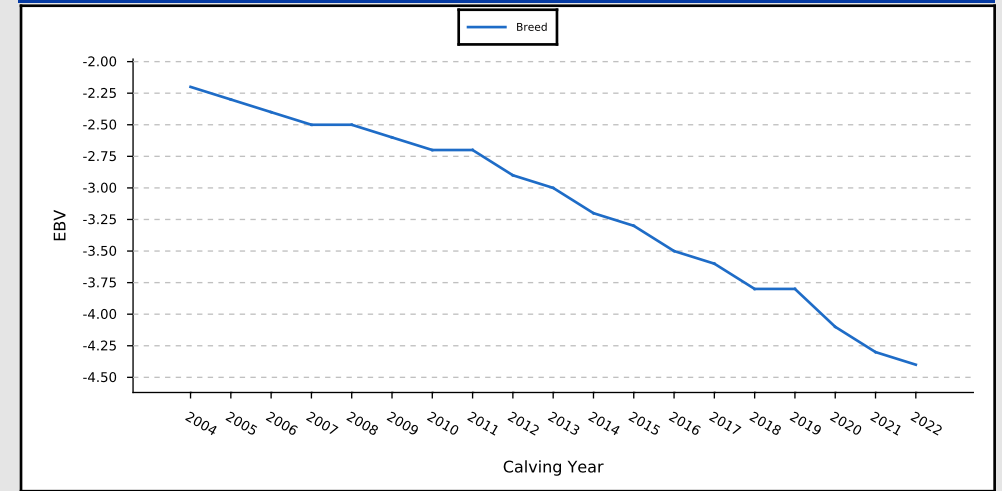
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The reports below assess the change in the average EBVs of Angus seedstock animals born in each year for each respective trait.

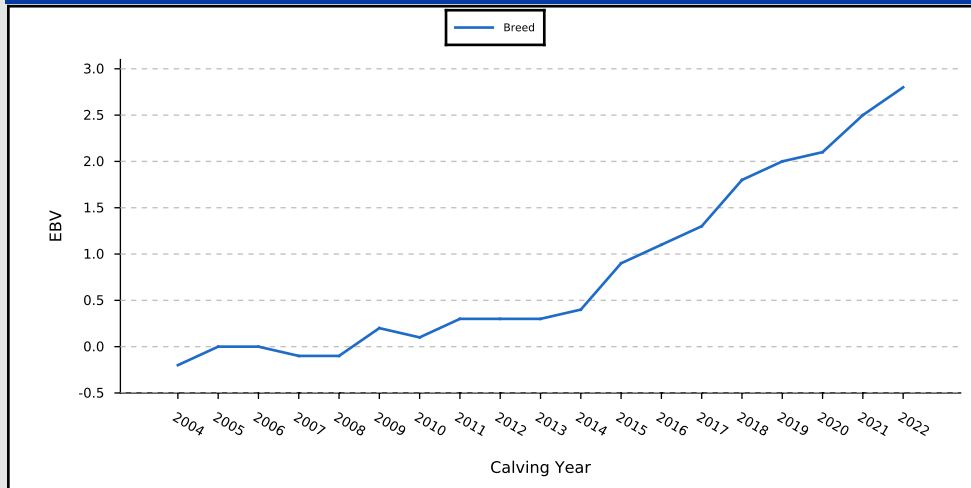
Calving Ease Direct (%)



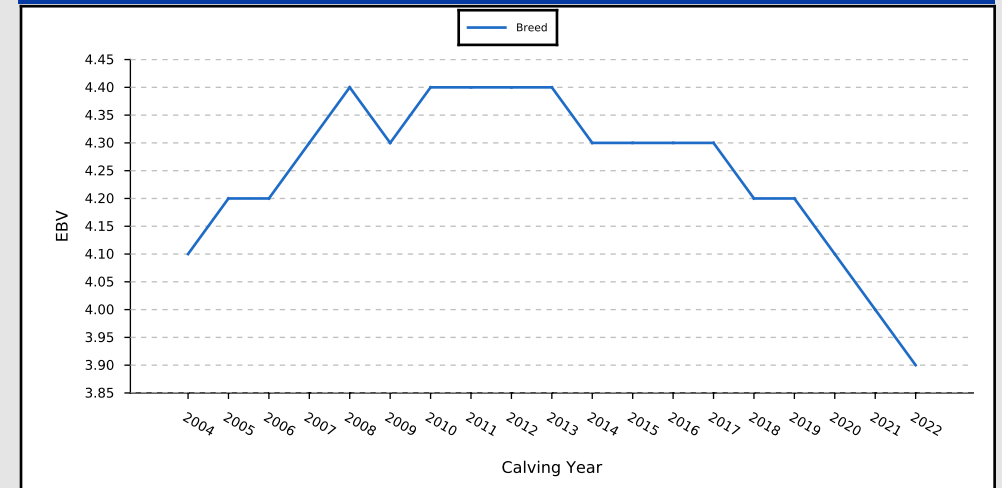
Gestation Length (days)



Calving Ease Daughters (%)



Birth Weight (kg)



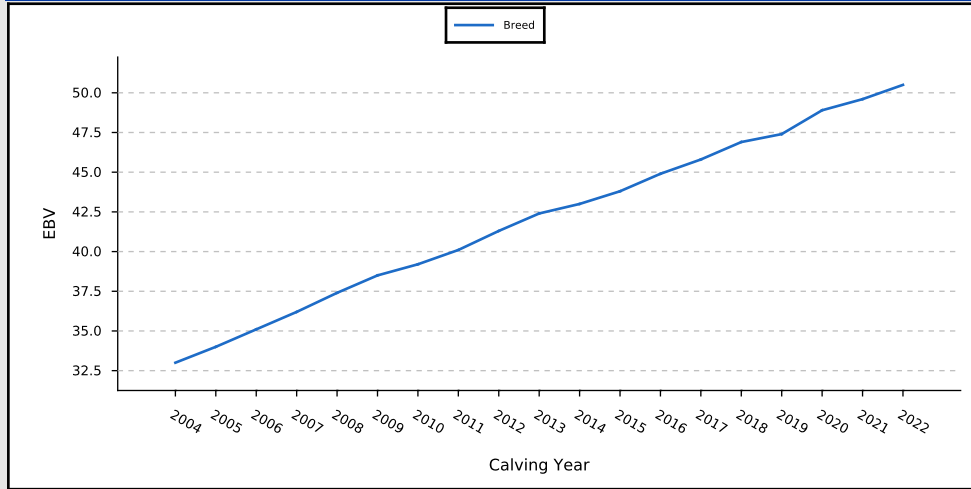
Genetic Progress By Trait

Date: February 28,

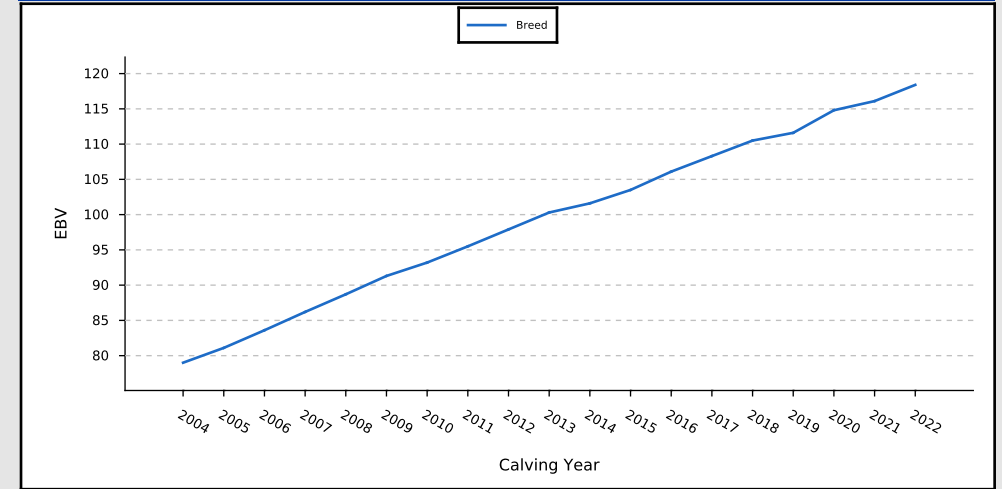
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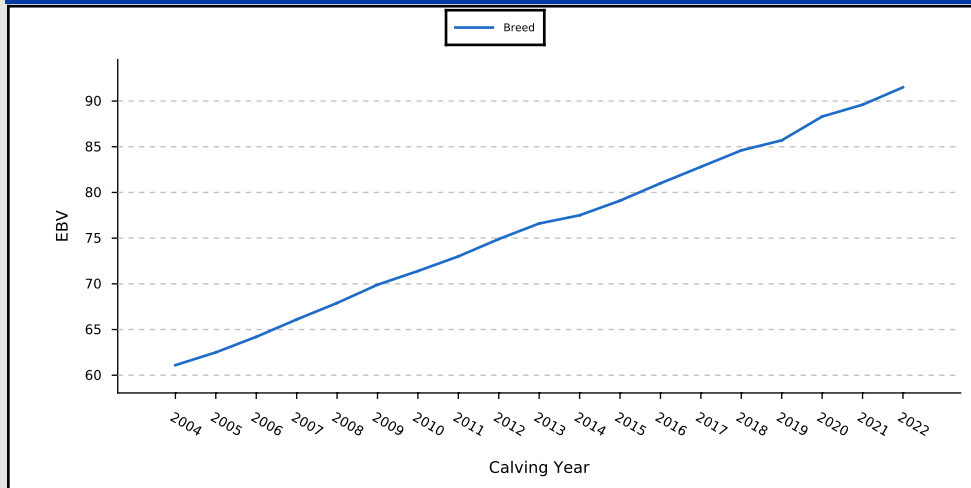
200 Day Growth (kg)



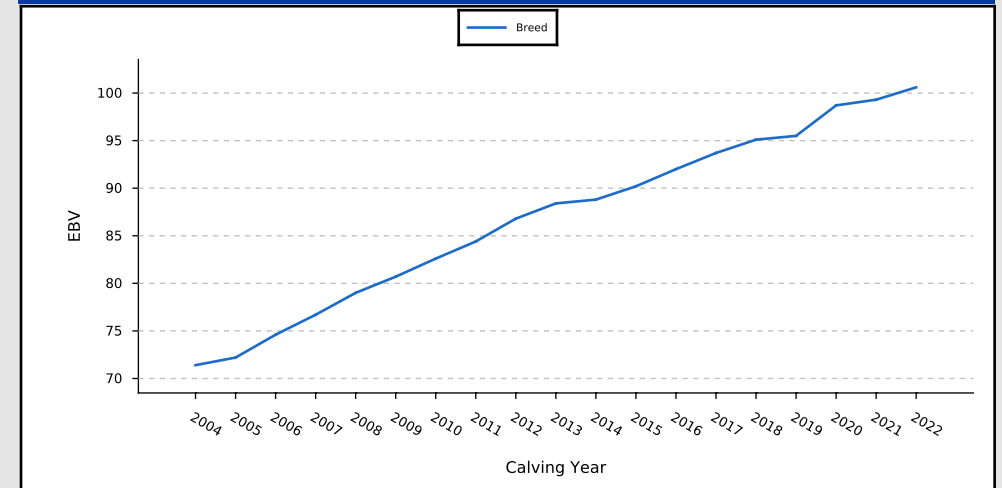
600 Day Weight (kg)



400 Day Weight (kg)



Mature Weight (kg)



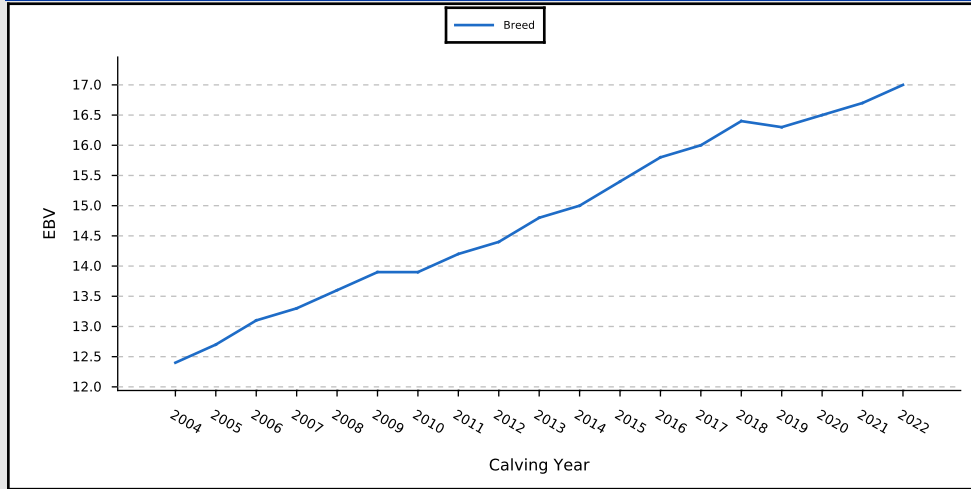
Genetic Progress By Trait

Date: February 28,

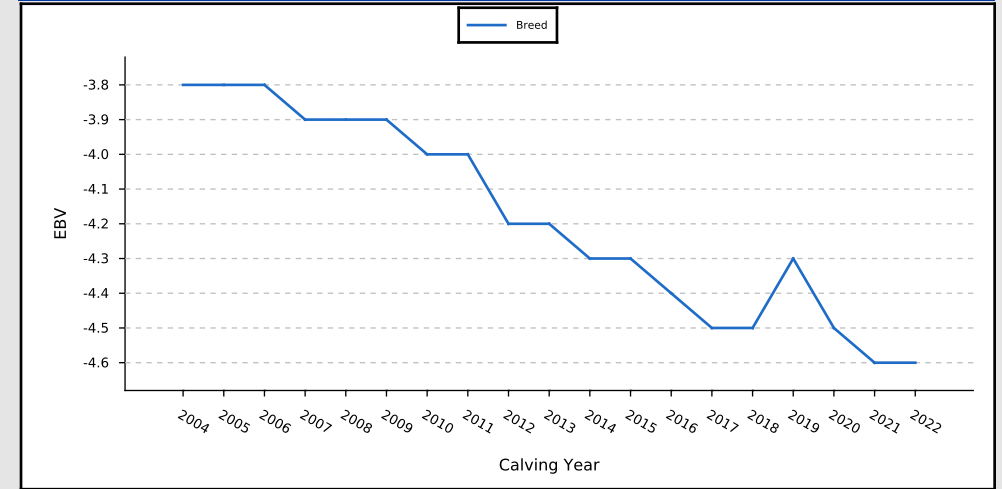
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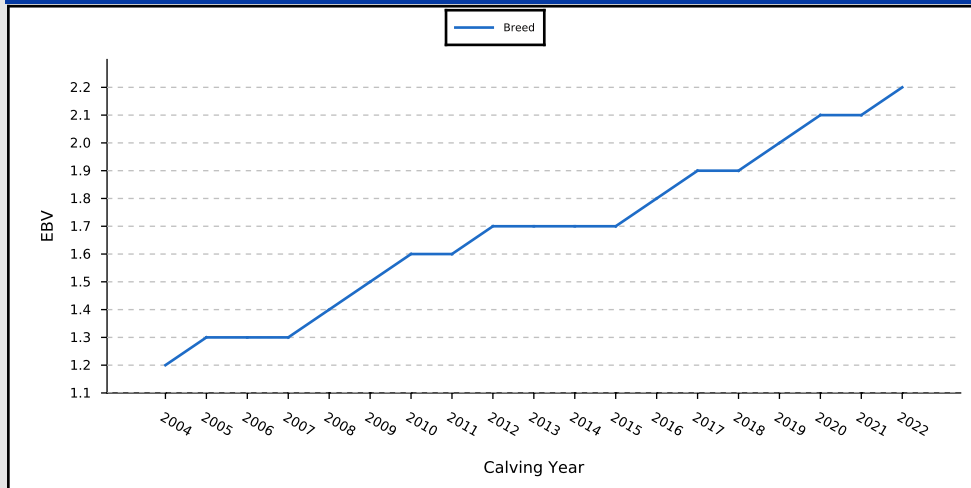
200 Day Milk (kg)



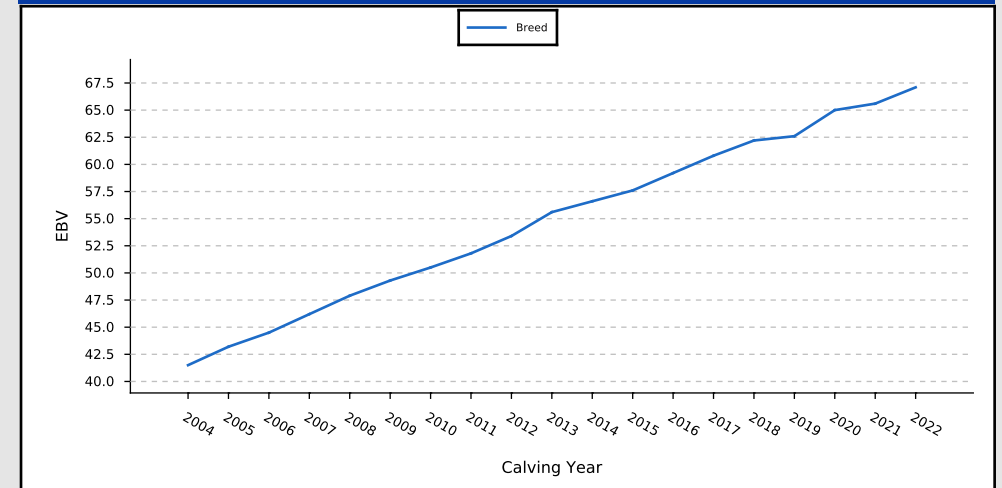
Days to Calving (days)



Scrotal Size (cm)



Carcase Weight (kg)



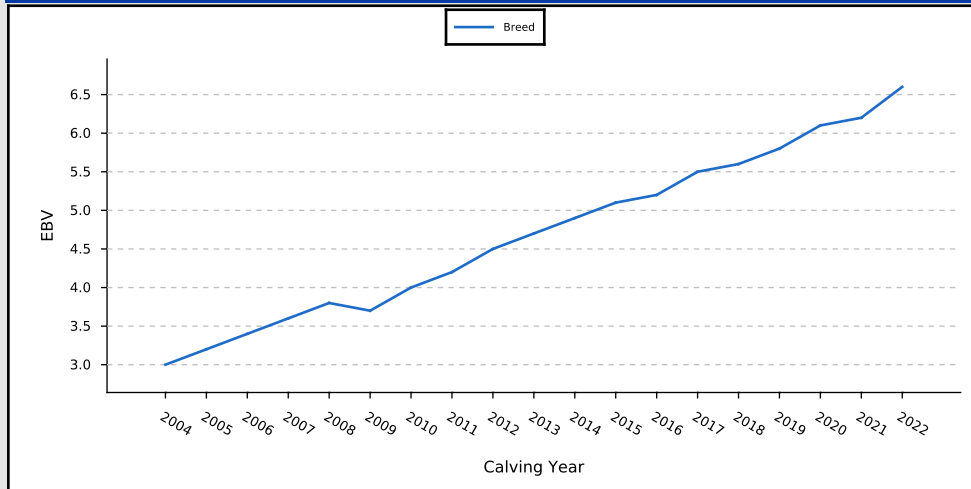
Genetic Progress By Trait

Date: February 28,

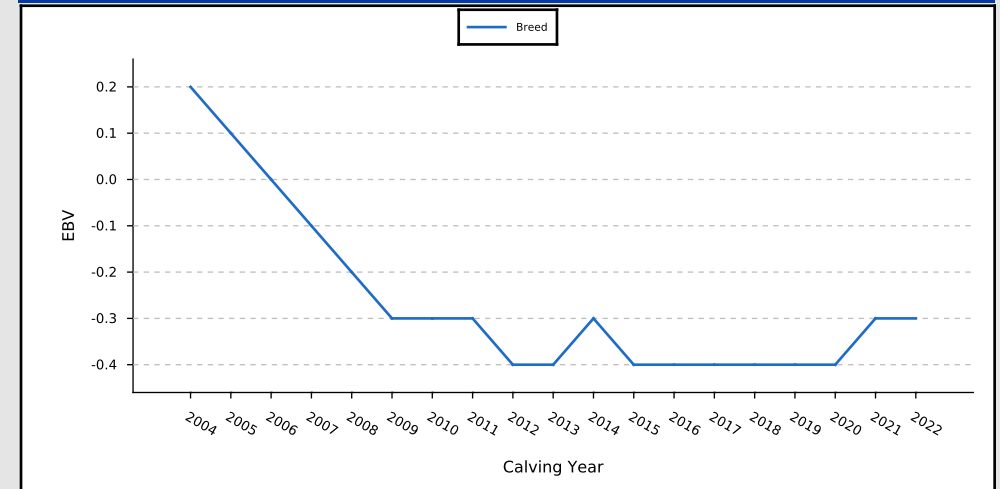
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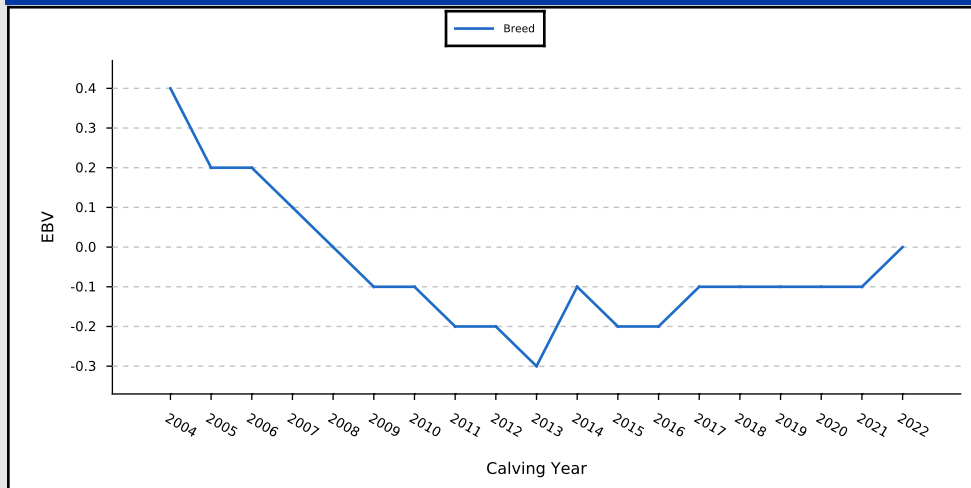
Carcase EMA (sq.cm)



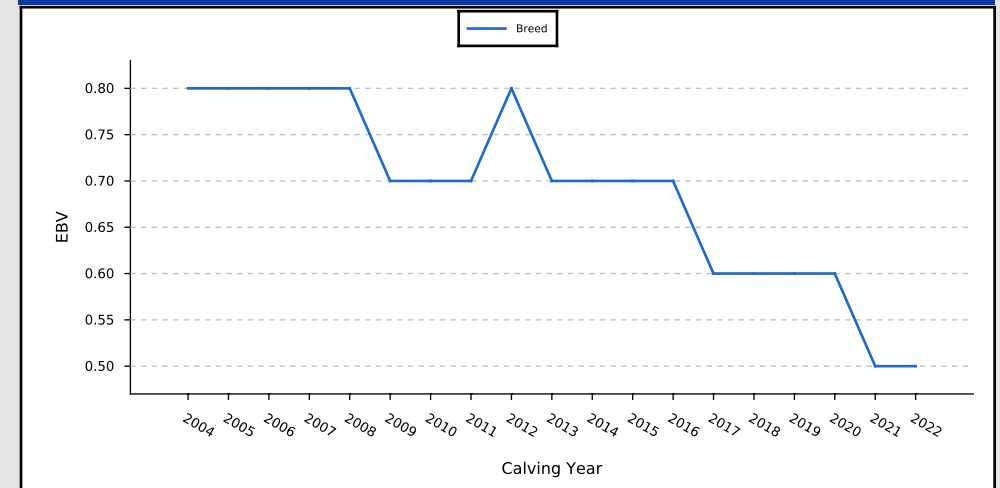
Carcase Rump Fat (mm)



Carcase Rib Fat (mm)



Carcase RBV (%)



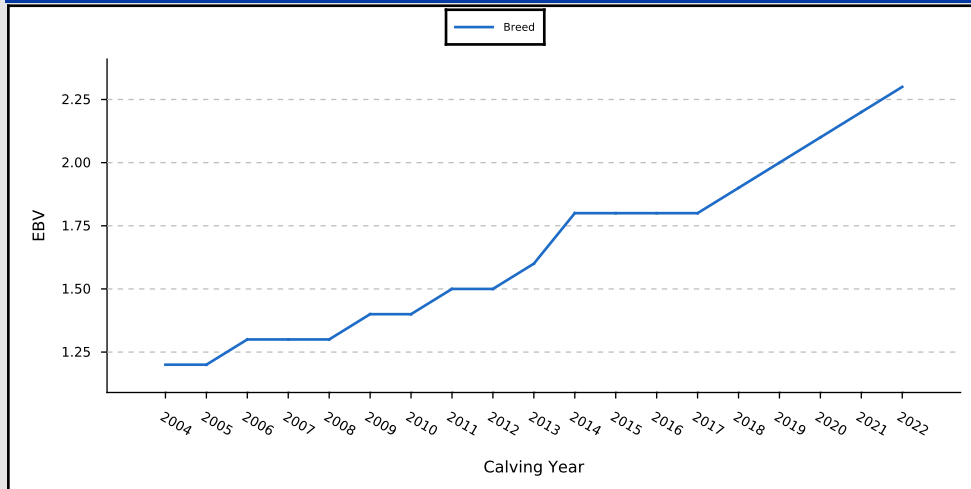
Genetic Progress By Trait

Date: February 28,

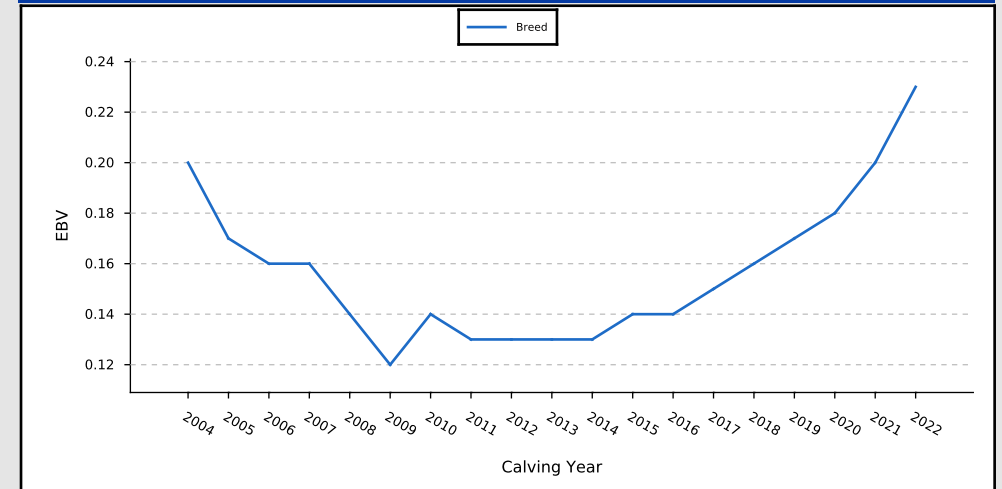
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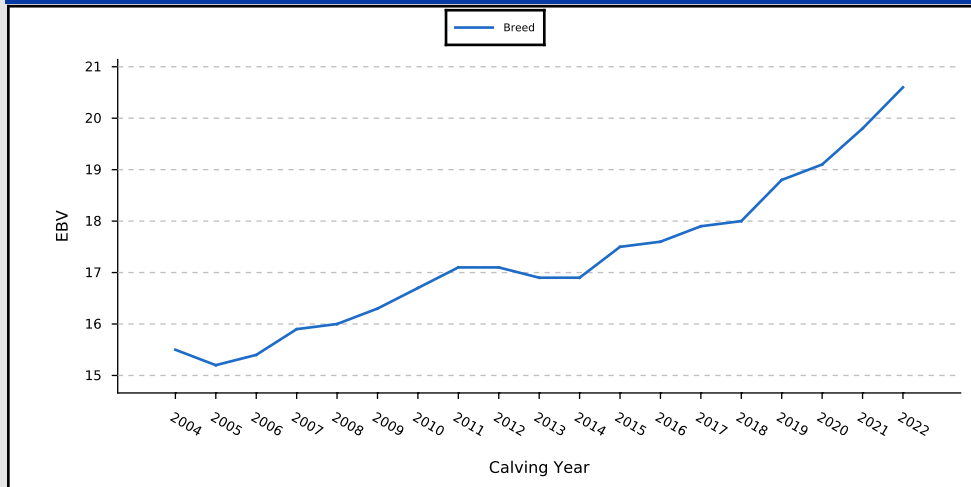
Carcase IMF (%)



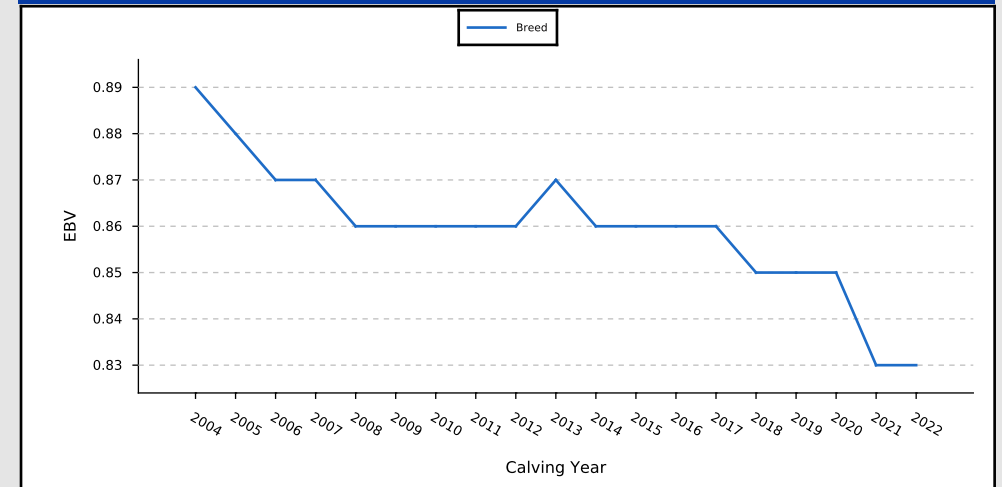
NFI_F (kg/day)



Docility (%)



Claw Set (score)



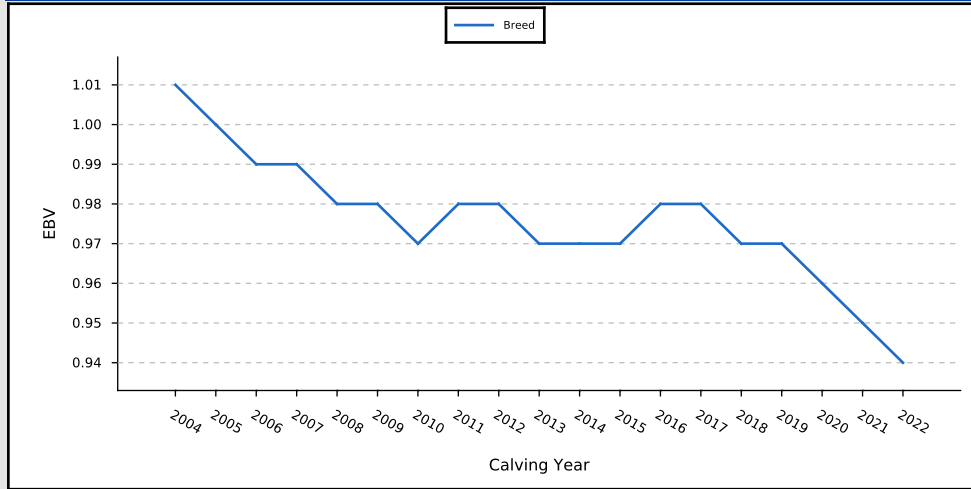
Genetic Progress By Trait

Date: February 28,

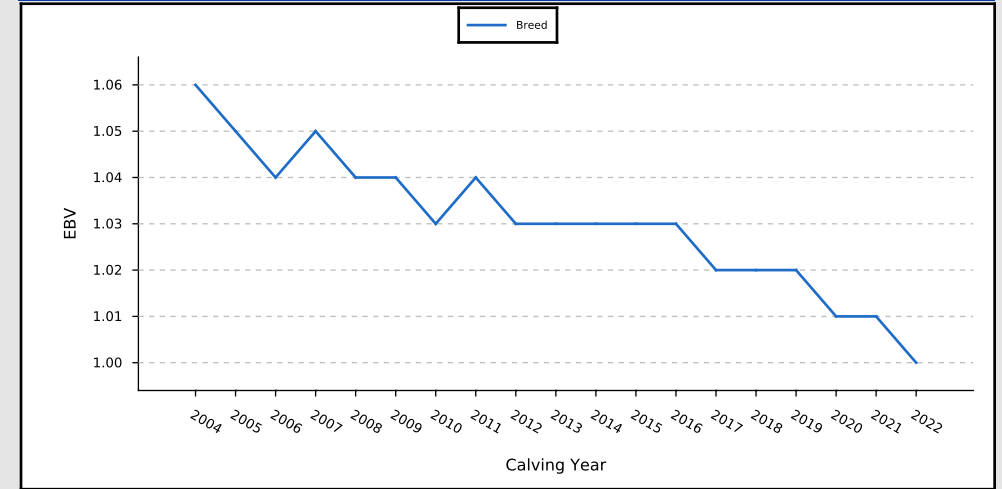
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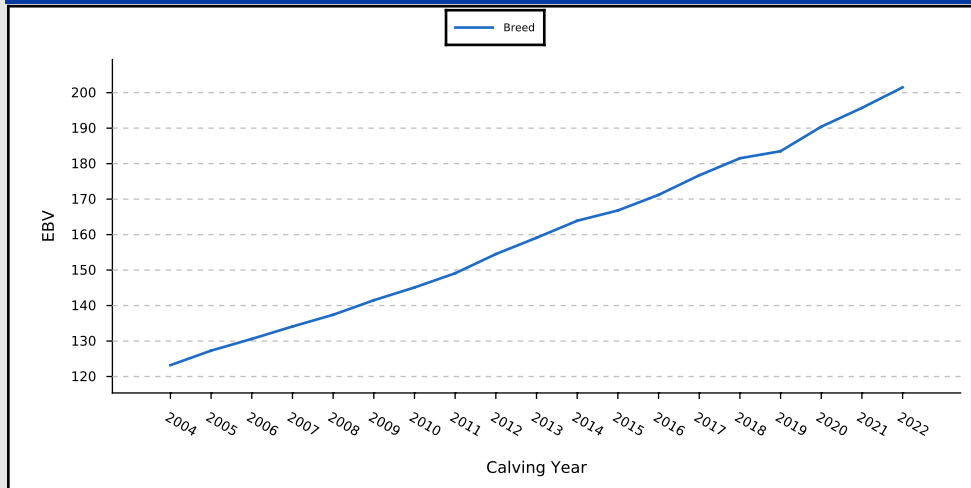
Foot Angle (score)



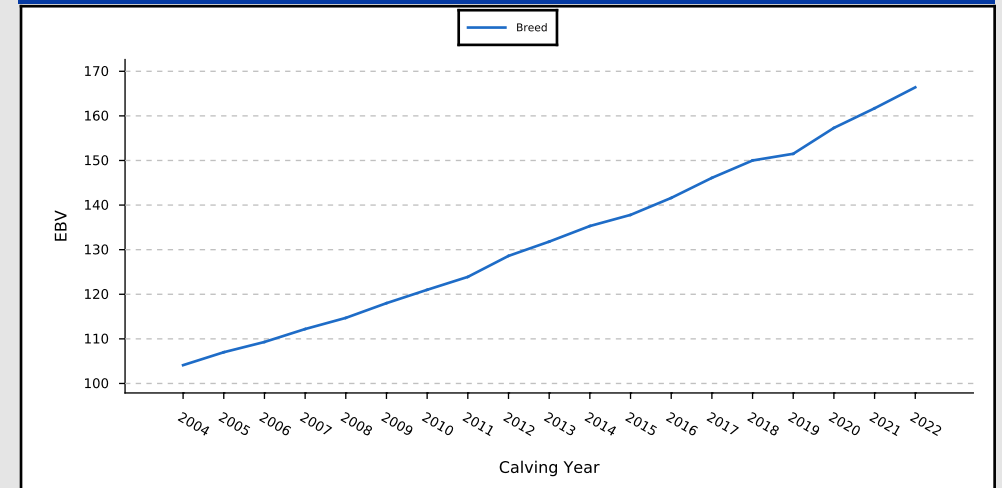
Leg Angle (score)



Angus Breeding (\$A)



Domestic (\$D)



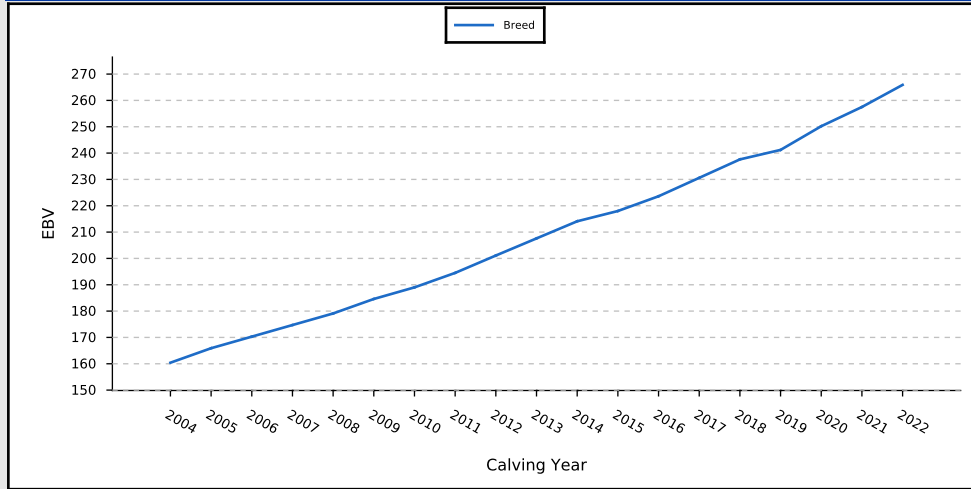
Genetic Progress By Trait

Date: February 28,

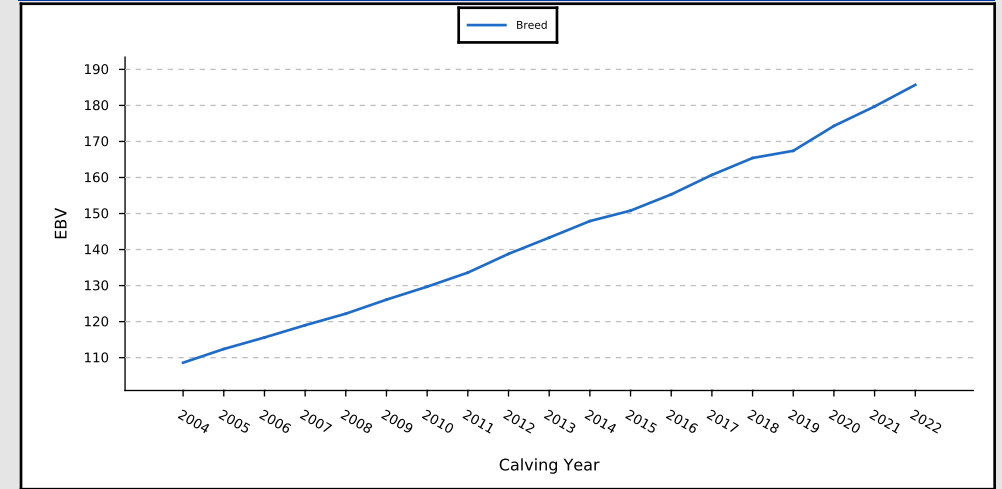
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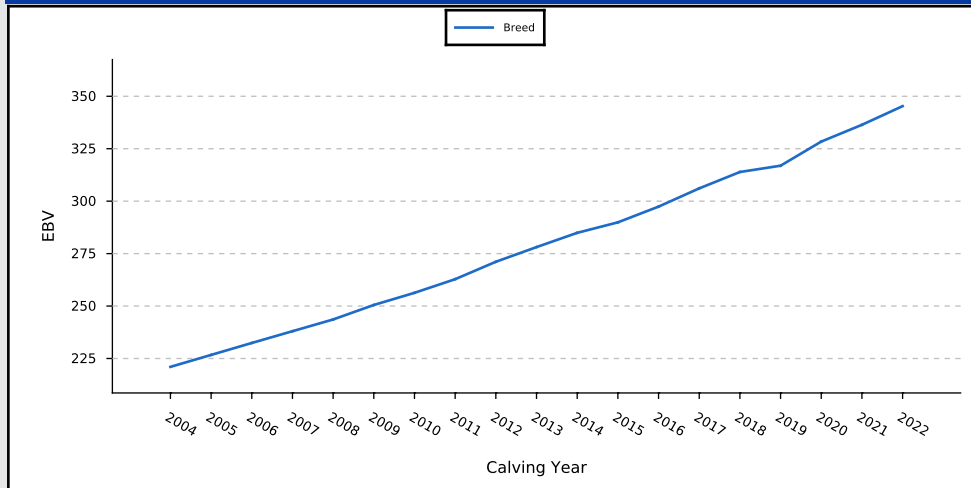
Heavy Grain (\$GN)



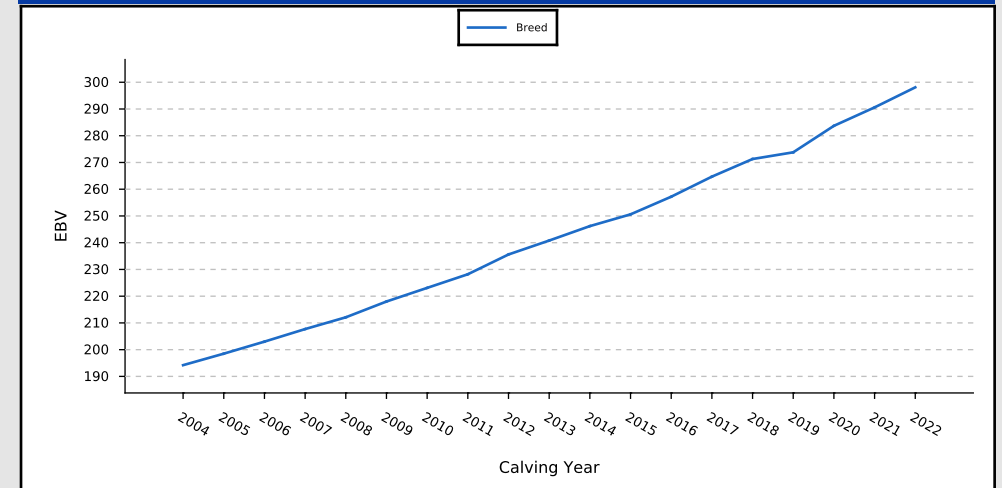
Heavy Grass (\$GS)



Angus Breeding Low Feed Cost (\$A-L)



Domestic Low Feed Cost (\$D-L)



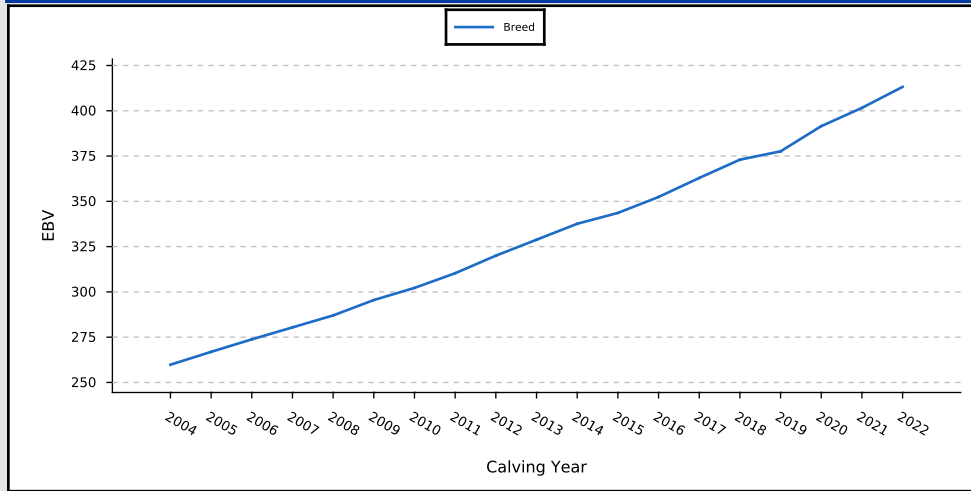
Genetic Progress By Trait

Date: February 28,

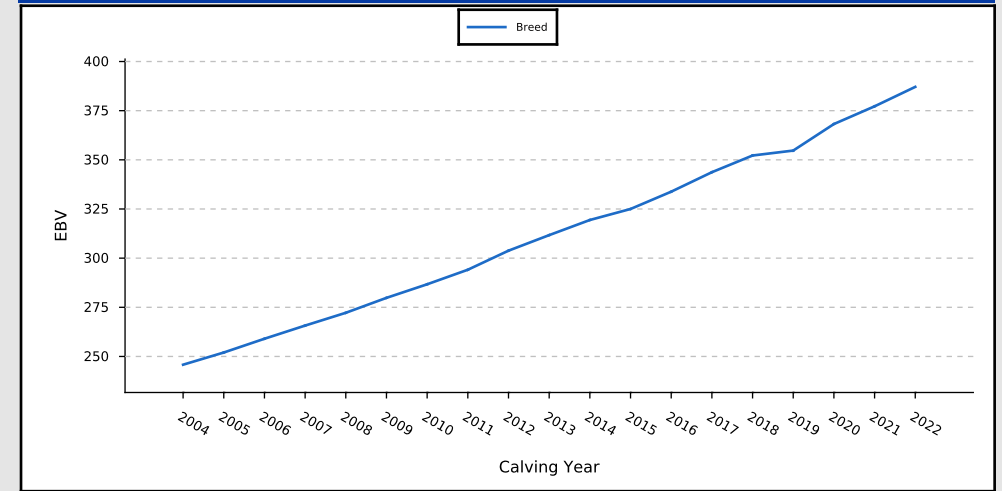
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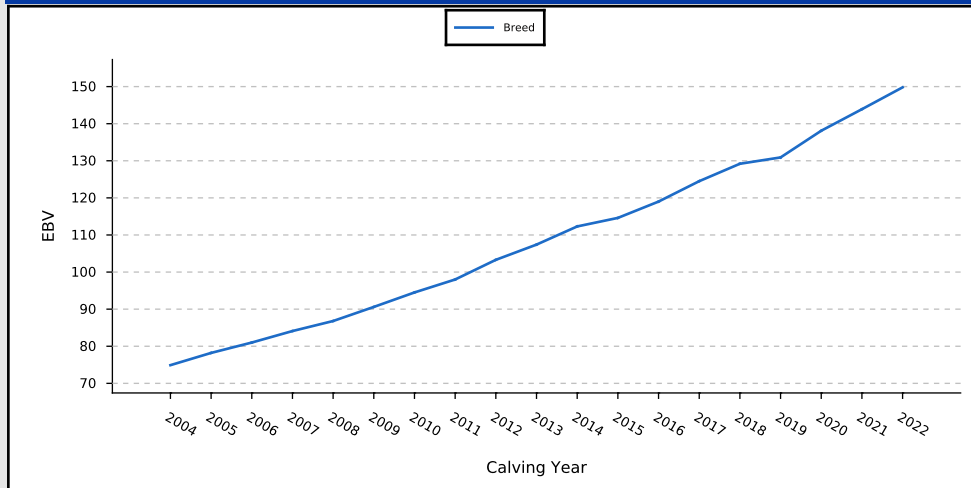
Heavy Grain Low Feed Cost (\$GN-L)



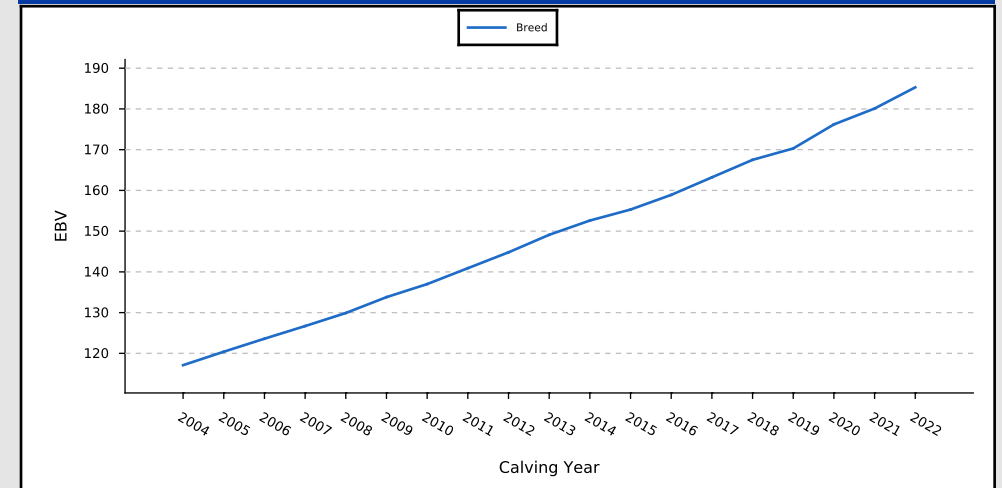
Heavy Grass Low Feed Cost (\$GS-L)



AngusPRO (\$PRO)

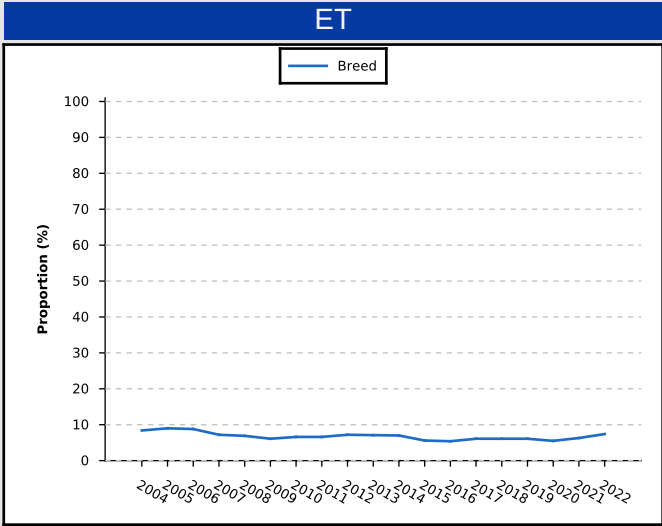
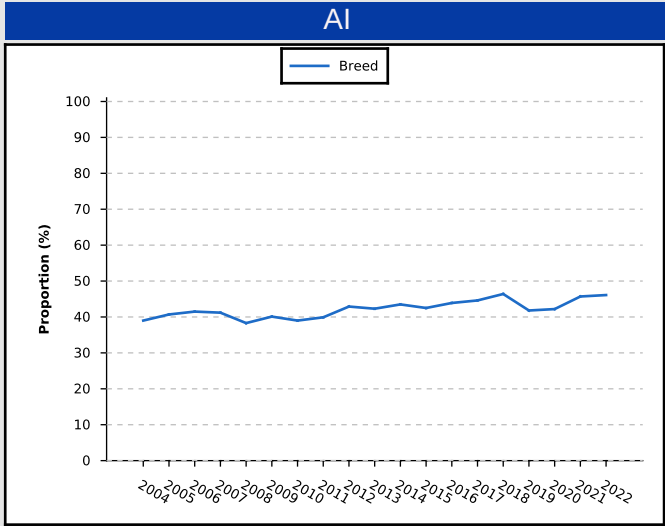
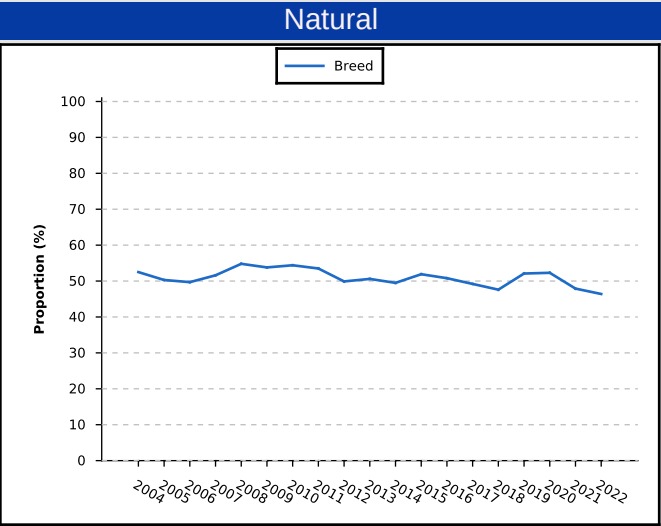
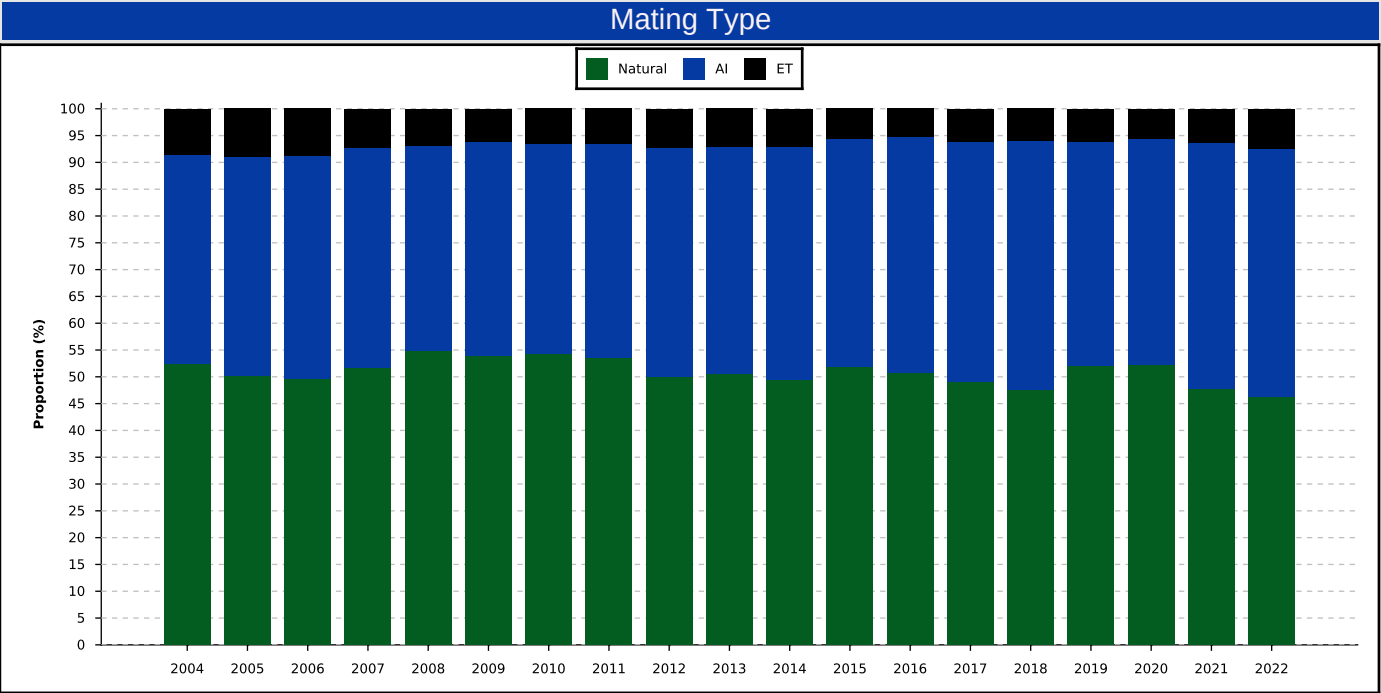


Angus Terminal Sire (\$T)



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	67045	35223	26170	5652
2005	69668	35038	28353	6277
2006	70730	35127	29345	6258
2007	67424	34803	27763	4858
2008	67824	37139	26002	4683
2009	66622	35863	26695	4064
2010	67297	36601	26270	4426
2011	73419	39262	29282	4875
2012	79475	39662	34099	5714
2013	81807	41371	34643	5793
2014	80654	39894	35117	5643
2015	81280	42186	34573	4521
2016	82288	41791	36094	4403
2017	85753	42215	38271	5267
2018	85938	40878	39858	5202
2019	85481	44530	35752	5199
2020	82624	43246	34866	4512
2021	94637	45353	43290	5994
2022	101070	46930	46611	7529



Generation Length

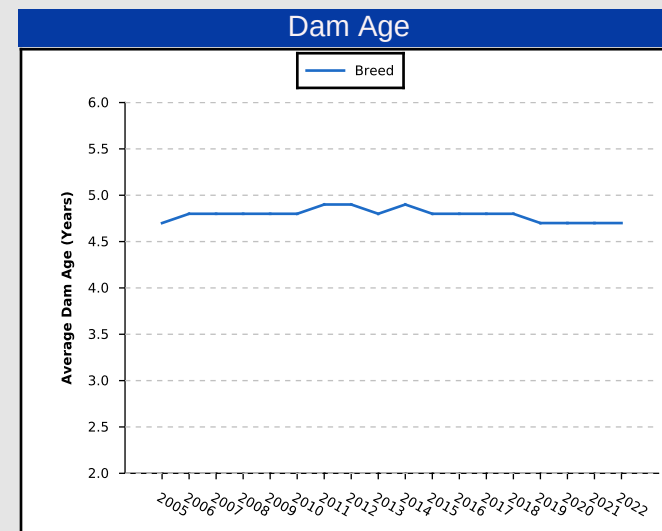
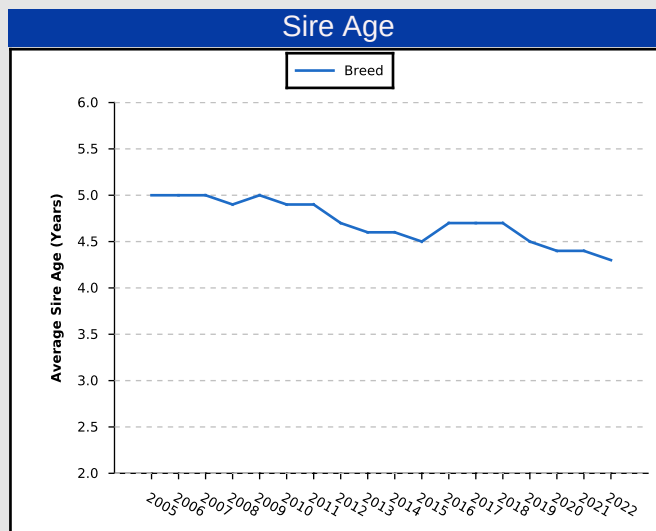
Average Sire and Dam Age By Year

Date: February 28,

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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	63452	5.0	3.6	6.3	7.9	4.7	4.6	4.5	6.3
2006	64555	5.0	3.7	6.2	7.7	4.8	4.7	4.4	6.4
2007	62616	5.0	3.7	6.3	7.6	4.8	4.7	4.4	6.4
2008	63345	4.9	3.7	6.4	7.8	4.8	4.8	4.4	6.7
2009	62870	5.0	3.7	6.5	7.9	4.8	4.7	4.5	6.9
2010	63366	4.9	3.7	6.1	7.6	4.8	4.8	4.5	6.5
2011	69586	4.9	3.7	6.1	7.6	4.9	4.9	4.5	6.8
2012	74918	4.7	3.7	5.6	6.7	4.9	4.9	4.5	6.7
2013	77160	4.6	3.7	5.4	6.4	4.8	4.8	4.5	6.8
2014	76056	4.6	3.7	5.4	6.7	4.9	4.9	4.5	6.9
2015	77664	4.5	3.7	5.3	6.7	4.8	4.8	4.5	6.9
2016	78287	4.7	3.8	5.5	6.7	4.8	4.9	4.5	6.8
2017	80827	4.7	3.8	5.5	6.6	4.8	4.8	4.5	6.8
2018	81261	4.7	3.7	5.5	6.5	4.8	4.8	4.5	6.9
2019	81036	4.5	3.6	5.3	6.8	4.7	4.7	4.4	6.5
2020	79066	4.4	3.6	5.2	6.0	4.7	4.7	4.3	6.8
2021	89874	4.4	3.5	5.2	6.5	4.7	4.7	4.3	6.9
2022	94780	4.3	3.5	4.9	5.8	4.7	4.7	4.3	6.8



Genetic Diversity

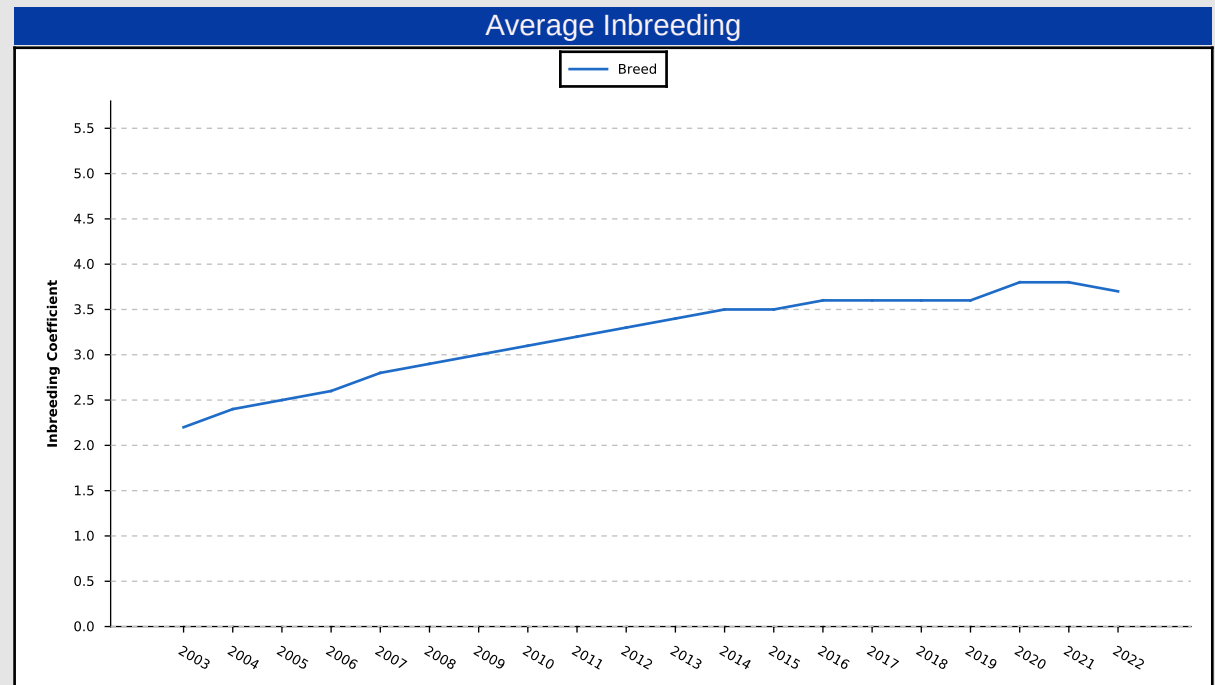
Average Inbreeding By Year

Date: February 28,

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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	59488	2.2
2004	61483	2.4
2005	63452	2.5
2006	64555	2.6
2007	62616	2.8
2008	63345	2.9
2009	62870	3.0
2010	63366	3.1
2011	69586	3.2
2012	74918	3.3
2013	77160	3.4
2014	76056	3.5
2015	77664	3.5
2016	78287	3.6
2017	80827	3.6
2018	81261	3.6
2019	81036	3.6
2020	79066	3.8
2021	89874	3.8
2022	94780	3.7



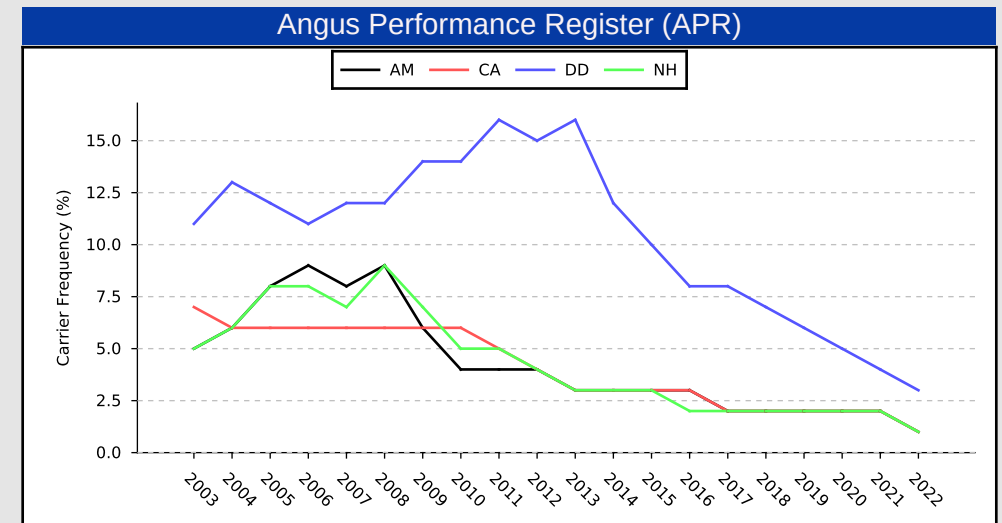
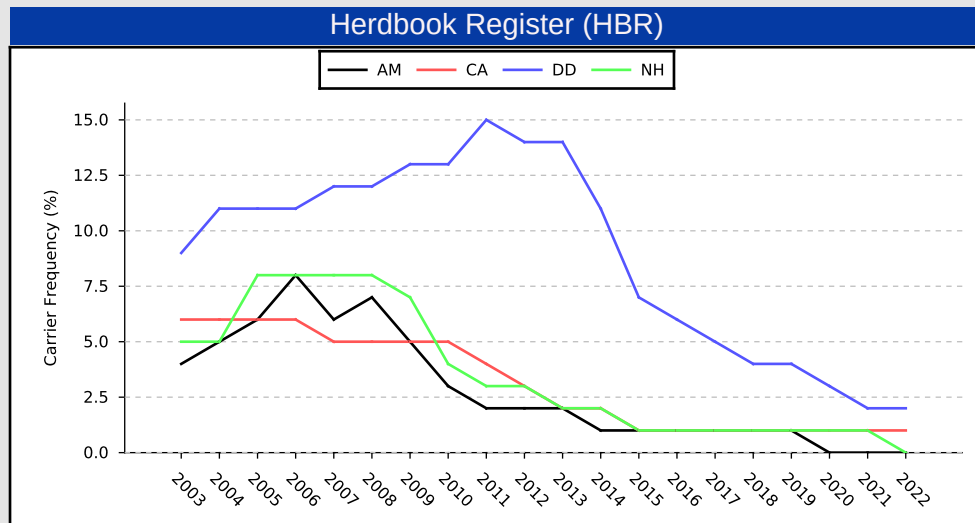
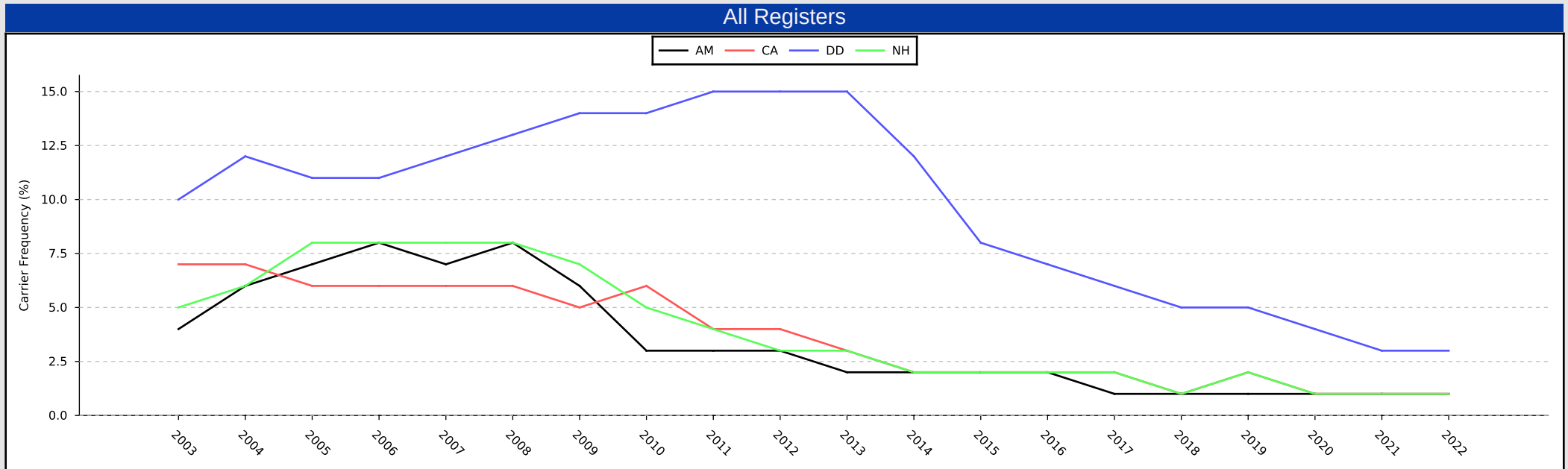
Genetic Conditions

Carrier Frequency By Register

Date: February 28,

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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

Date: February 28,

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

		Estimated Breeding Values																															
		Calv-Ease		Birth		Growth				Fert		Carcase						Feed	Temp	Structural			Selection Index										
Year	Count	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
2004	61483	-0.2	-0.2	-2.2	+4.1	+33	+61	+79	+71	+12	+1.2	-3.8	+42	+3.0	+0.4	+0.2	+0.8	+1.2	+0.20	+16	+0.89	+1.01	+1.06	+123	+104	+160	+109	+221	+194	+260	+246	+75	+117
2005	63452	-0.1	+0.0	-2.3	+4.2	+34	+63	+81	+72	+13	+1.3	-3.8	+43	+3.2	+0.2	+0.1	+0.8	+1.2	+0.17	+15	+0.88	+1.00	+1.05	+127	+107	+166	+112	+227	+199	+267	+252	+78	+120
2006	64555	-0.2	+0.0	-2.4	+4.2	+35	+64	+84	+75	+13	+1.3	-3.8	+45	+3.4	+0.2	+0.0	+0.8	+1.3	+0.16	+15	+0.87	+0.99	+1.04	+131	+109	+170	+116	+232	+203	+274	+259	+81	+124
2007	62616	-0.3	-0.1	-2.5	+4.3	+36	+66	+86	+77	+13	+1.3	-3.9	+46	+3.6	+0.1	-0.1	+0.8	+1.3	+0.16	+16	+0.87	+0.99	+1.05	+134	+112	+175	+119	+238	+208	+280	+266	+84	+127
2008	63345	-0.4	-0.1	-2.5	+4.4	+37	+68	+89	+79	+14	+1.4	-3.9	+48	+3.8	+0.0	-0.2	+0.8	+1.3	+0.14	+16	+0.86	+0.98	+1.04	+137	+115	+179	+122	+244	+212	+287	+272	+87	+130
2009	62870	-0.2	+0.2	-2.6	+4.3	+39	+70	+91	+81	+14	+1.5	-3.9	+49	+3.7	-0.1	-0.3	+0.7	+1.4	+0.12	+16	+0.86	+0.98	+1.04	+142	+118	+185	+126	+251	+218	+296	+280	+91	+134
2010	63366	-0.3	+0.1	-2.7	+4.4	+39	+71	+93	+83	+14	+1.6	-4.0	+51	+4.0	-0.1	-0.3	+0.7	+1.4	+0.14	+17	+0.86	+0.97	+1.03	+145	+121	+189	+130	+256	+223	+302	+287	+95	+137
2011	69586	-0.2	+0.3	-2.7	+4.4	+40	+73	+96	+84	+14	+1.6	-4.0	+52	+4.2	-0.2	-0.3	+0.7	+1.5	+0.13	+17	+0.86	+0.98	+1.04	+149	+124	+195	+134	+263	+228	+310	+294	+98	+141
2012	74918	-0.3	+0.3	-2.9	+4.4	+41	+75	+98	+87	+14	+1.7	-4.2	+53	+4.5	-0.2	-0.4	+0.8	+1.5	+0.13	+17	+0.86	+0.98	+1.03	+155	+129	+201	+139	+271	+236	+320	+304	+103	+145
2013	77160	-0.2	+0.3	-3.0	+4.4	+42	+77	+100	+88	+15	+1.7	-4.2	+56	+4.7	-0.3	-0.4	+0.7	+1.6	+0.13	+17	+0.87	+0.97	+1.03	+159	+132	+208	+143	+278	+241	+329	+312	+107	+149
2014	76056	+0.1	+0.4	-3.2	+4.3	+43	+78	+102	+89	+15	+1.7	-4.3	+57	+4.9	-0.1	-0.3	+0.7	+1.8	+0.13	+17	+0.86	+0.97	+1.03	+164	+135	+214	+148	+285	+246	+338	+319	+112	+153
2015	77664	+0.1	+0.9	-3.3	+4.3	+44	+79	+104	+90	+15	+1.7	-4.3	+58	+5.1	-0.2	-0.4	+0.7	+1.8	+0.14	+18	+0.86	+0.97	+1.03	+167	+138	+218	+151	+290	+251	+344	+325	+115	+155
2016	78287	+0.3	+1.1	-3.5	+4.3	+45	+81	+106	+92	+16	+1.8	-4.4	+59	+5.2	-0.2	-0.4	+0.7	+1.8	+0.14	+18	+0.86	+0.98	+1.03	+171	+142	+224	+155	+297	+257	+352	+334	+119	+159
2017	80827	+0.6	+1.3	-3.6	+4.3	+46	+83	+108	+94	+16	+1.9	-4.5	+61	+5.5	-0.1	-0.4	+0.6	+1.8	+0.15	+18	+0.86	+0.98	+1.02	+177	+146	+231	+161	+306	+265	+363	+344	+125	+163
2018	81261	+0.8	+1.8	-3.8	+4.2	+47	+85	+111	+95	+16	+1.9	-4.5	+62	+5.6	-0.1	-0.4	+0.6	+1.9	+0.16	+18	+0.85	+0.97	+1.02	+182	+150	+238	+165	+314	+271	+373	+352	+129	+168
2019	81036	+1.0	+2.0	-3.8	+4.2	+47	+86	+112	+96	+16	+2.0	-4.3	+63	+5.8	-0.1	-0.4	+0.6	+2.0	+0.17	+19	+0.85	+0.97	+1.02	+184	+152	+241	+167	+317	+274	+378	+355	+131	+170
2020	79066	+1.2	+2.1	-4.1	+4.1	+49	+88	+115	+99	+17	+2.1	-4.5	+65	+6.1	-0.1	-0.4	+0.6	+2.1	+0.18	+19	+0.85	+0.96	+1.01	+190	+157	+250	+174	+328	+284	+392	+368	+138	+176
2021	89874	+1.5	+2.5	-4.3	+4.0	+50	+90	+116	+99	+17	+2.1	-4.6	+66	+6.2	-0.1	-0.3	+0.5	+2.2	+0.20	+20	+0.83	+0.95	+1.01	+196	+162	+258	+180	+336	+291	+402	+377	+144	+180
2022	94780	+1.7	+2.8	-4.4	+3.9	+51	+92	+118	+101	+17	+2.2	-4.6	+67	+6.6	+0.0	-0.3	+0.5	+2.3	+0.23	+21	+0.83	+0.94	+1.00	+202	+166	+266	+186	+345	+298	+413	+387	+150	+185

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