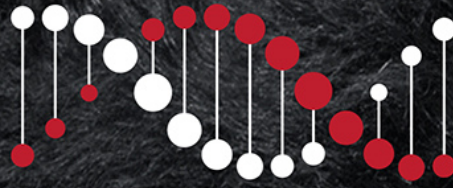


# TACE



TransTasman Angus Cattle Evaluation

## ANGUS ImmuneDEX

### RESEARCH BREEDING VALUES

AUGUST 2024

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## BACKGROUND

Angus Australia has partnered with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to undertake research into the genetics of traits related to immune competence and resilience. An animal's resilience is defined as their capacity to cope with environmental challenges, especially those leading to disease, and to subsequently return to being productive.

This has involved collecting and analysing immune competence phenotypes on ~4000 Angus steers and heifers at weaning, primarily from the Angus Sire Benchmarking Program (ASBP). This information, combined with genotypes (i.e. DNA profiles), was analysed to determine genetic parameter estimates (heritabilities and correlations) and to produce Research Breeding Values for immune competence.

More specifically, immune competence was assessed by combining measures of antibody-mediated immune responses (Ab\_IR), through a blood test, and cell-mediated immune responses (Cell\_IR), through a skin reaction test. Pathogens, like the bacteria and viruses associated with Bovine Respiratory Disease (BRD), differ in the way they infect the host animal. For instance, many bacteria live outside host cells while viruses replicate within host cells. The immune system tailors how it responds to different pathogens with extra-cellular pathogens most effectively controlled by Ab\_IR and intracellular pathogens most effectively controlled by Cell\_IR.

Individuals identified as having a balanced ability to mount both a Cell\_IR and Ab\_IR response are expected to exhibit broad-based disease resistance against a wide range of pathogens. For this reason, an index value (ImmuneDEX) has been developed which combines research breeding values for the Cell\_IR and Ab\_IR traits into a single value. The process by which the ImmuneDEX value is generated ensures appropriate weightings are given to component traits so that high ImmuneDEX animals have a balanced response, and genetic gains in both traits are driven at similar rates.

The ImmuneDEX value is moderately heritable and negatively correlated with some of the production traits (e.g. carcass weight and eye muscle area), while being favourably correlated with the stress and temperament related traits.

Additionally, on a subset 1149 steers from this study, disease incidence during the feedlot feeding period was examined. Prior vaccination and minimal mixing with unfamiliar animals at feedlot entry provided a low disease risk environment in the study. Nonetheless, animals with superior immune competence phenotypes had significantly fewer health-related mortalities, and incurred substantially lower health related costs during feedlot finishing.

## UNDERSTANDING THE ImmuneDEX RBV

ImmuneDEX Research Breeding Values (RBVs) are provided in this publication for sires with (i) at least 50% accuracy for their ImmuneDEX RBV, and (ii) one or more progeny born in the last two years.

The ImmuneDEX RBV provides an estimate of genetic differences between animals for overall immune competence, a key component of resilience.

Higher ImmuneDEX RBVs indicate an animal is expected to produce progeny with an enhanced ability to resist disease challenges and therefore have lower disease incidence. Lower ImmuneDEX RBVs indicate an animal is expected to produce progeny with a higher incidence of disease and associated production losses.

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## USING THE RESEARCH BREEDING VALUES IN SELECTION

The ImmuneDEX RBVs in this publication will enable Angus breeders to place selection emphasis on immune competence and resilience traits, while continuing selection for other traits of importance within their breeding objective.

It is important to note that the RBVs for AB\_IR and Cell\_IR that underpin the ImmuneDex values are subject to greater potential change than EBVs routinely reported as part of the TransTasman Angus Cattle Evaluation (TACE), and ImmuneDEX RBVs should be used with caution in animal selection decisions.

ImmuneDEX RBVs, and the component Research Breeding Values for AB\_IR and Cell\_IR, may change as improvements are made to the analytical models that are used, and as additional performance information is collected and methodologies for assessing resilience traits continue to evolve.

## ACKNOWLEDGEMENTS

Angus Australia gratefully acknowledges the ASBP co-operator herd owners for allowing access to animals for testing. Contributions of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) are also acknowledged, and in particular, Dr Brad Hine, Dr Aaron Ingham, Dominic Niemeyer, Amy Bell, Dr Sonja Dominik, Dr Toni Reverter-Gomez, Dr Laercio Porto Neto and Dr Ian Colditz. Assistance provided by Bob Dent in the initial methodology development work is also gratefully acknowledged.

Meat and Livestock Australia (MLA) and the Australian Lot Feeders Association (ALFA) are acknowledged for co-funding projects related to the development and validation of the immune competence phenotyping methodology. MLA is further acknowledged for co-funding the Angus Sire Benchmarking Program (ASBP)

## DISCLAIMER

The ImmuneDEX RBVs contained within this publication were calculated from data supplied to Angus Australia by members and/or third parties. Whilst every effort is made to ensure the accuracy of the data, Angus Australia, its officers and employees, assume no responsibility for the accuracy of the RBVs, nor the outcome (including consequential loss) of an action taken based on the information presented in this publication.

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# Angus Australia - ImmuneDEX Research Breeding Values

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Ident	Name																										
Sire Dam	Reg.	ImmuneDEX IMD	Calv-Ease		Birth		Growth			Maternal			Fert		Carcase				Feed	Temp	Structural		Selection Index				
			Dir	Dtrs	GL	BW	200	400	600	MCW	Milk	SS	DC	CW	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L	
<b>USA15719841</b> USA13880818 USA15151449	<b>A A R TEN X 7008 S A</b> <sup>SV</sup> HBR	+56 83% 35	+4.3	+6.9	-4.5	+2.8	+59	+105	+137	+107	+19	+2.2	-3.1	+78	+6.1	-2.8	-6.8	+0.8	+2.4	-0.10	+12	+1.44	+1.02	+0.80	\$211	\$366	
<b>NXOL172</b> NXOF43 NXOJ432	<b>AJC L172</b> <sup>SV</sup> APR	+46 69% 51	+6.7	+7.8	-6.1	+3.1	+60	+102	+139	+132	+14	+2.3	-4.9	+72	+6.9	-0.6	+0.3	+0.3	+1.1	-0.99	+22	+1.42	+1.28	+1.16	\$219	\$407	
<b>DGJG10</b> VTMB1 DGJZ15	<b>ALLOURA GET CRACKING G10</b> <sup>SV</sup> HBR	+53 69% 39	+8.1	+7.6	-2.9	+2.5	+43	+75	+86	+84	+12	-0.4	-8.0	+46	+14.2	+1.7	+0.6	+0.9	+5.2	+0.42	+6	+0.50	+1.00	+0.94	\$267	\$426	
<b>DGJL94</b> USA15832750 DGJH24	<b>ALLOURA LOCK STOCK &amp;</b> HBR	+44 64% 55	+5.6	+0.7	-4.0	+2.7	+56	+94	+124	+123	+12	+1.1	-4.4	+64	+0.5	+1.8	-1.6	+0.2	+2.3	-0.41	+25	+0.84	+0.90	+0.92	\$190	\$352	
<b>DGJQ30</b> WWEL3 DGJK117	<b>ALLOURA QUINELLA Q30</b> <sup>SV</sup> HBR	+13 51% 97	+2.4	+1.9	+0.5	+3.0	+54	+99	+115	+118	+14	+3.3	-7.5	+72	+14.2	+0.8	+1.0	+1.1	+4.4	+0.39	+16	+0.90	+1.04	+1.16	\$272	\$449	
<b>NAQA241</b> USA2928 NAQW38	<b>ARDROSSAN EQUATOR A241</b> <sup>PV</sup> HBR	+49 80% 46	-1.8	+2.6	-4.5	+4.1	+50	+92	+122	+108	+20	+3.2	-8.2	+87	+8.1	-2.1	-0.3	+1.4	+1.3	+0.71	+25	+0.46	+0.86	+1.00	\$226	\$380	
<b>NAQN329</b> NAQH318 NAQK30	<b>ARDROSSAN HOLBROOK N329</b> HBR	+22 54% 89	-2.4	+0.4	-2.9	+2.7	+46	+85	+108	+75	+23	+2.7	-7.2	+70	+5.1	+2.4	+2.4	-0.8	+4.0	+1.08	+14	+0.80	+0.98	+0.92	\$210	\$334	
<b>NAQH255</b> NORE11 NAQD17	<b>ARDROSSAN HONOUR H255</b> <sup>PV</sup> HBR	+27 81% 82	-1.7	-1.1	-2.8	+4.6	+43	+75	+97	+96	+12	+2.2	-5.6	+60	+5.6	+0.9	-1.1	+0.6	+2.1	+1.01	+8	+0.44	+1.02	+1.24	\$160	\$284	
<b>QQFH147</b> VTME343 NMMF123	<b>ASCOT HALLMARK H147</b> <sup>PV</sup> HBR	+47 72% 50	-2.8	+1.9	-5.0	+7.2	+60	+110	+151	+134	+15	+3.7	-5.5	+80	-1.9	+0.8	-0.1	-0.8	+3.1	+0.28	+18	+0.48	+0.84	+1.02	\$194	\$359	
<b>HIOE7</b> VTMB219 BVVB32	<b>AYRVALE BARTEL E7</b> <sup>PV</sup> HBR	+41 85% 60	+8.5	+9.3	-4.4	+1.8	+49	+86	+113	+74	+26	+2.6	-8.5	+64	+7.7	-0.6	+0.5	+1.3	+3.4	+0.31	+4	+1.04	+1.00	+1.12	\$290	\$449	
<b>NBBN47</b> HIOG18 NBBL83	<b>BALD BLAIR NELSON N47</b> <sup>PV</sup> HBR	+25 50% 85	+2.7	-2.5	-5.1	+4.4	+56	+105	+153	+160	+14	+1.0	-4.4	+84	+4.3	-1.0	-0.8	+0.9	+0.6	-0.20	+28	+0.98	+1.08	+1.20	\$178	\$360	
<b>ECMK63</b> NZE14647008839 ECMH45	<b>BANNABY REALITY K63</b> <sup>PV</sup> HBR	+74 68% 10	+3.7	-1.2	-2.7	+3.8	+43	+76	+99	+99	+13	+2.1	-0.9	+52	+5.1	-1.3	-1.5	+0.4	+1.3	-0.21	+27	+0.52	+1.00	+1.24	\$116	\$235	
<b>NUIF32</b> NGMC196 NUID96	<b>BONNY BROOKE FALCO F32</b> <sup>SV</sup> HBR	+49 53% 46	-6.0	-9.1	+0.2	+6.5	+48	+75	+97	+88	+16	-0.9	-2.5	+59	-2.3	+2.4	+2.1	-0.9	+1.6	-0.27	+18	+0.96	+0.90	+1.06	\$107	\$190	
<b>Breed Average EBVs</b>		<b>+47</b>	<b>+1.8</b>	<b>+2.7</b>	<b>-4.4</b>	<b>+4.0</b>	<b>+51</b>	<b>+92</b>	<b>+119</b>	<b>+102</b>	<b>+17</b>	<b>+2.2</b>	<b>-4.6</b>	<b>+67</b>	<b>+6.4</b>	<b>+0.0</b>	<b>-0.3</b>	<b>+0.5</b>	<b>+2.3</b>	<b>+0.22</b>	<b>+21</b>	<b>+0.84</b>	<b>+0.97</b>	<b>+1.02</b>	<b>+200</b>	<b>+344</b>	

# Angus Australia - ImmuneDEX Research Breeding Values

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Ident	Name																										
Sire Dam	Reg.	ImmuneDEX IMD	Calv-Ease		Birth		Growth			Maternal			Fert		Carcase					Feed	Temp	Structural		Selection Index			
			Dir	Dtrs	GL	BW	200	400	600	MCW	Milk	SS	DC	CW	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L	
<b>HCAG013</b> VTMA217 VTMZ618	<b>BOONAROO GRAVITY G013</b> <sup>PV</sup> HBR	+87 70% 2	+5.5 91% 22	+4.0 83% 40	-5.5 98% 32	+3.6 98% 41	+51 97% 50	+87 97% 65	+115 97% 60	+101 94% 51	+23 95% 10	+3.8 97% 8	-5.7 72% 26	+56 93% 81	+4.8 92% 69	-3.0 92% 96	-3.3 92% 91	+1.3 88% 10	+3.0 91% 30	-0.74 85% 1	+21 94% 45	+0.50 94% 3	+0.92 94% 37	+1.06 91% 60	\$220 31	\$373 30	
<b>NGMN418</b> WWEL3 NGML471	<b>BOOROOMOOKA JACKPOT N418</b> HBR	+24 50% 87	+1.9 71% 55	+7.1 65% 11	-8.7 95% 5	+5.4 96% 79	+62 95% 10	+109 95% 10	+135 94% 19	+132 94% 12	+6 88% 99	+3.4 94% 13	-6.5 61% 14	+80 88% 18	+8.9 86% 23	-0.5 86% 60	+0.0 87% 44	+0.9 80% 24	+2.4 88% 44	+0.26 80% 55	+29 95% 20	+1.32 93% 99	+1.08 93% 75	+1.02 86% 47	\$258 5	\$447 2	
<b>NGMP96</b> WWEL3 NGMM566	<b>BOOROOMOOKA PARAGON P96</b> HBR	+15 52% 96	-3.7 81% 88	+2.4 72% 58	-7.4 98% 12	+3.7 98% 43	+62 98% 9	+120 97% 2	+161 97% 2	+130 95% 14	+30 90% 1	+3.4 96% 13	-7.9 62% 4	+110 92% 1	+13.2 91% 3	-2.5 90% 93	-1.4 91% 68	+1.8 83% 3	+1.8 92% 61	+0.86 86% 96	+32 98% 11	+0.84 96% 49	+1.00 96% 58	+1.12 93% 77	\$282 1	\$459 1	
<b>BOWK2</b> VTME343 NAQZ31	<b>BOWMAN AUSTRALIA K2</b> <sup>PV</sup> HBR	+43 74% 56	+7.3 80% 10	+3.3 75% 48	-6.3 94% 22	+3.5 91% 38	+48 91% 62	+97 90% 36	+122 91% 43	+94 87% 62	+23 86% 13	+5.0 84% 2	-8.0 68% 3	+68 88% 49	+7.9 88% 32	-0.1 87% 51	-1.6 88% 71	+1.0 83% 20	+1.2 90% 76	-0.64 83% 2	+13 88% 79	+0.86 84% 54	+1.02 85% 62	+0.96 81% 28	\$232 19	\$399 14	
<b>SRKK306</b> NJWG279 TFAD58	<b>BOWMONT KING K306</b> <sup>PV</sup> HBR	+31 69% 77	-1.1 88% 77	-9.2 79% 99	-4.7 97% 45	+4.5 98% 62	+49 97% 60	+77 97% 87	+102 97% 83	+87 95% 72	+2 94% 99	-0.3 96% 99	-4.9 69% 43	+64 93% 62	+15.3 93% 62	-0.3 92% 56	-2.1 93% 79	+1.7 91% 4	+4.7 93% 6	+0.49 87% 78	+25 96% 31	+0.56 92% 6	+0.90 92% 33	+0.72 90% 1	\$234 17	\$346 53	
<b>QBUG49</b> VTMB1 QBUE5	<b>BURENDA GEIGER COUNTER</b> HBR	+11 69% 99	+8.5 86% 5	+8.8 76% 4	-7.0 97% 15	+2.9 97% 26	+42 95% 86	+83 96% 77	+108 95% 73	+92 94% 65	+16 93% 55	+2.2 94% 47	-8.2 69% 3	+65 92% 59	+3.4 91% 82	+0.3 91% 42	-1.3 91% 67	+0.5 85% 47	+3.0 90% 30	+0.12 85% 39	+26 95% 28	+0.98 85% 76	+1.20 85% 92	+0.98 82% 34	\$222 29	\$388 20	
<b>GTNP9</b> HKFJ5 GTNK26	<b>CHILTERN PARK PICASSO P9</b> <sup>PV</sup> HBR	+37 53% 67	+8.2 79% 6	+8.2 68% 6	-3.3 98% 67	+1.3 98% 7	+55 96% 30	+102 96% 22	+133 95% 21	+92 90% 66	+23 83% 12	+3.6 93% 10	-7.6 62% 5	+92 88% 4	+6.7 86% 45	-0.5 86% 60	+1.2 87% 24	-0.5 80% 11	+4.2 88% 91	+0.72 77% 19	+29 93% 13	+0.64 91% 13	+0.70 91% 5	+0.84 85% 7	\$273 2	\$450 2	
<b>QMUM13</b> USA16295688 QMUG1	<b>CLUNES CROSSING DUSTY M13</b> HBR	+35 50% 70	+1.1 85% 62	+4.1 81% 39	-7.0 99% 15	+5.3 99% 78	+64 98% 6	+101 98% 24	+119 98% 50	+63 98% 94	+16 97% 61	+1.0 98% 86	-6.9 75% 9	+72 96% 38	+13.1 94% 3	-2.4 94% 92	-3.2 95% 90	+1.2 91% 13	+1.8 94% 61	+0.21 88% 50	+10 98% 87	+0.90 98% 62	+0.86 98% 24	+1.00 96% 40	\$293 1	\$423 6	
<b>NBHK330</b> NJWG279 NBHH381	<b>CLUNIE RANGE KALUHA K330</b> <sup>PV</sup> HBR	+3 71% 99	-1.1 84% 77	-12.0 74% 99	-4.8 97% 43	+5.6 97% 82	+54 96% 33	+96 96% 38	+126 96% 34	+99 93% 54	+15 90% 67	+1.6 96% 69	-7.0 67% 9	+91 92% 5	+9.5 91% 18	+0.1 91% 46	-1.2 92% 65	+1.2 90% 13	+3.0 93% 30	+0.28 86% 58	+5 94% 96	+0.68 88% 18	+0.96 88% 47	+1.18 85% 89	\$240 13	\$371 32	
<b>NBHL348</b> NZE14647008839 AHWJ81	<b>CLUNIE RANGE LEGEND L348</b> <sup>PV</sup> HBR	+18 68% 93	-6.4 95% 95	+4.3 87% 37	-7.8 99% 9	+5.8 99% 85	+57 98% 22	+103 98% 20	+124 98% 38	+153 98% 3	+1 97% 99	+2.9 98% 24	-7.1 78% 8	+62 95% 66	+0.1 94% 97	+3.8 94% 3	+1.2 94% 24	-0.8 92% 96	+2.4 87% 44	+0.05 87% 32	+24 97% 36	+0.50 97% 3	+0.80 97% 14	+1.24 96% 95	\$164 85	\$340 57	
<b>WDCH249</b> USA14885809 WDCE9	<b>COONAMBLE HECTOR H249</b> <sup>SV</sup> HBR	+33 70% 73	+1.1 96% 62	+0.9 87% 72	-8.3 99% 6	+4.5 99% 62	+44 98% 79	+79 98% 85	+98 98% 87	+90 97% 69	+5 98% 99	+1.3 98% 78	-4.9 78% 43	+45 96% 95	+9.2 95% 20	+4.2 95% 2	+4.5 95% 3	+0.6 93% 41	+0.1 95% 94	-0.50 88% 3	+39 98% 4	+0.40 96% 1	+0.48 96% 1	+0.80 94% 4	\$182 72	\$313 76	
<b>WDCK314</b> NAQA241 WDCD94	<b>COONAMBLE KEVIN K314</b> <sup>PV</sup> HBR	+99 65% 1	-0.8 86% 75	+4.1 75% 39	-2.3 95% 81	+4.3 98% 57	+49 97% 58	+100 95% 27	+131 96% 25	+110 93% 37	+25 94% 6	+4.3 93% 4	-6.9 68% 9	+82 92% 15	+7.4 90% 37	+0.3 90% 42	+0.8 91% 30	+0.2 86% 65	+1.6 91% 66	+0.60 83% 86	+41 86% 3	+0.52 85% 4	+1.12 86% 82	+1.22 82% 93	\$205 47	\$365 37	
<b>USA16198796</b> USA14686137 USA15452880	<b>EF COMPLEMENT 8088</b> <sup>PV</sup> HBR	+15 85% 96	+4.6 99% 30	+7.0 95% 12	-4.7 99% 45	+2.9 99% 26	+52 99% 43	+98 99% 32	+130 99% 27	+98 99% 57	+21 99% 20	+1.4 99% 75	-6.9 91% 9	+76 98% 28	+7.6 97% 35	+1.4 98% 20	+0.5 98% 35	+0.8 97% 29	+1.5 97% 69	+0.53 94% 81	+20 99% 53	+0.92 99% 66	+1.26 99% 96	+1.16 98% 85	\$251 8	\$415 8	
<b>Breed Average EBVs</b>		<b>+47</b>	<b>+1.8</b>	<b>+2.7</b>	<b>-4.4</b>	<b>+4.0</b>	<b>+51</b>	<b>+92</b>	<b>+119</b>	<b>+102</b>	<b>+17</b>	<b>+2.2</b>	<b>-4.6</b>	<b>+67</b>	<b>+6.4</b>	<b>+0.0</b>	<b>-0.3</b>	<b>+0.5</b>	<b>+2.3</b>	<b>+0.22</b>	<b>+21</b>	<b>+0.84</b>	<b>+0.97</b>	<b>+1.02</b>	<b>+200</b>	<b>+344</b>	

# Angus Australia - ImmuneDEX Research Breeding Values

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Ident	Name																									
Sire Dam	Reg.	ImmuneDEX IMD	Calv-Ease		Birth		Growth			Maternal			Fert		Carcase					Feed	Temp	Structural		Selection Index		
			Dir	Dtrs	GL	BW	200	400	600	MCW	Milk	SS	DC	CW	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L
<b>WWEQ15</b> VTMG67 WWEN17	<b>ESLEMONT GARTH Q15</b> <sup>PV</sup> HBR	+36 52% 69	-2.8 75% 85	+2.0 67% 62	-8.2 93% 7	+5.7 91% 84	+63 90% 7	+112 90% 7	+152 90% 5	+144 86% 6	+28 79% 2	+2.3 83% 43	-6.7 61% 11	+70 88% 43	+6.0 87% 54	-3.6 86% 98	-3.9 87% 94	+0.4 78% 53	+4.0 89% 13	-0.46 82% 4	+44 86% 2	+0.90 80% 62	+1.14 80% 85	+1.06 77% 60	\$233 2 19	\$408 2 10
<b>WWEL3</b> HIOG18 WWEJ8	<b>ESLEMONT LOTTO L3</b> <sup>PV</sup> HBR	+8 77% 99	-6.3 87% 94	-2.0 86% 89	-5.4 99% 34	+4.7 99% 66	+60 99% 13	+110 99% 8	+140 99% 13	+135 98% 11	+16 98% 59	+3.6 98% 10	-8.8 82% 2	+91 97% 5	+14.5 96% 2	-0.3 96% 56	+0.4 96% 37	+1.7 95% 4	+3.2 96% 26	+0.37 92% 67	+15 98% 73	+1.12 98% 92	+1.00 98% 58	+1.14 97% 81	\$277 2 2	\$450 2 2
<b>WWEQ24</b> WWEN12 WWEN7	<b>ESLEMONT QUOKKA Q24</b> <sup>PV</sup> HBR	+53 52% 39	+5.2 74% 24	+0.3 63% 76	-4.7 95% 45	+1.7 95% 10	+43 93% 84	+84 93% 73	+98 93% 88	+53 87% 98	+21 78% 20	+4.1 90% 5	-6.3 57% 16	+66 89% 56	+16.8 89% 1	+1.4 88% 20	-0.1 89% 45	+2.3 79% 1	+2.0 91% 55	+1.21 83% 99	+29 87% 20	+0.76 73% 32	+0.90 73% 33	+0.94 70% 23	\$267 3 3	\$392 18 18
<b>WWE21S6</b> NGMN418 WWEN7	<b>ESLEMONT SEAN S6</b> <sup>PV</sup> HBR	+27 54% 82	+4.6 69% 30	+7.0 62% 12	-5.7 94% 30	+3.0 91% 28	+56 90% 26	+98 86% 31	+114 86% 61	+88 84% 72	+16 78% 60	+4.4 82% 4	-5.6 51% 27	+79 79% 20	+17.2 75% 1	+2.5 75% 9	+0.6 77% 33	+1.4 68% 8	+3.6 79% 19	+1.01 70% 98	+26 88% 26	+1.04 65% 85	+1.20 65% 92	+1.10 64% 72	\$287 1 2	\$447 2 2
<b>USA16295688</b> USA13009379 USA15129456	<b>G A R PROPHET</b> <sup>SV</sup> HBR	+43 88% 56	+3.6 98% 39	+5.3 94% 26	-0.7 99% 93	+3.7 99% 43	+67 99% 3	+108 99% 12	+134 99% 21	+85 99% 76	+23 99% 12	+0.7 90% 91	-5.0 90% 41	+72 98% 38	+3.8 97% 79	-0.9 97% 69	-1.3 98% 67	-0.7 97% 95	+4.7 97% 6	+0.81 94% 94	+26 99% 27	+1.02 99% 82	+0.82 99% 17	+0.92 98% 19	\$272 2 2	\$418 7 7
<b>USA17328461</b> USA16205036 USA16431932	<b>G A R SURE FIRE</b> <sup>SV</sup> HBR	+96 79% 1	+6.4 95% 15	+2.2 86% 60	-3.0 99% 72	+2.2 99% 16	+49 98% 57	+91 98% 54	+113 98% 63	+84 97% 77	+20 98% 27	+4.1 98% 5	-7.3 80% 6	+64 96% 59	+8.5 96% 26	+0.0 96% 49	-0.4 96% 51	+0.9 95% 24	+3.6 96% 19	-0.13 89% 16	+26 96% 28	+1.18 99% 96	+0.94 99% 42	+0.60 92% 1	\$258 5 5	\$413 8 8
<b>QBGH221</b> BNAD145 QBGD80	<b>GLENOCH HINMAN H221</b> <sup>SV</sup> HBR	+69 70% 16	+5.5 84% 22	-2.6 75% 91	-2.9 97% 73	+3.0 97% 28	+54 96% 36	+94 96% 44	+125 96% 36	+117 92% 27	+20 93% 29	+0.9 95% 88	-3.6 69% 74	+84 92% 11	+7.7 91% 34	-1.8 91% 85	-5.0 91% 98	+0.9 87% 24	+5.2 92% 4	-0.35 85% 6	+10 86% 88	+0.88 88% 58	+0.80 89% 14	+1.06 85% 60	\$217 33 33	\$368 34 34
<b>DKKM41</b> NORH708 DKKJ51	<b>HARDHAT H708 MAIMURU J51</b> APR	+86 50% 2	-1.5 70% 79	+3.6 62% 45	-1.6 95% 87	+2.3 94% 17	+43 92% 83	+91 91% 53	+118 91% 52	+96 87% 59	+11 82% 88	+1.4 83% 75	-3.7 64% 72	+62 89% 67	+2.2 89% 90	+1.0 88% 27	-2.1 89% 79	-0.4 80% 89	+6.3 91% 1	+0.08 84% 35	+23 88% 40	+1.04 88% 85	+1.02 88% 62	+1.12 85% 77	\$189 65 65	\$322 70 70
<b>NHZF1023</b> VTMB1 NHZB723	<b>HAZELDEAN F1023</b> <sup>SV</sup> APR	+41 68% 60	+3.7 92% 38	+0.3 81% 76	-2.6 98% 77	+3.1 98% 30	+39 98% 92	+75 98% 90	+89 98% 95	+71 97% 90	+14 97% 75	+3.6 97% 36	-5.2 77% 10	+49 95% 32	+7.9 94% 32	+2.3 94% 10	-0.3 94% 49	+0.2 90% 65	+5.9 94% 2	+1.35 88% 99	+12 98% 82	+0.46 97% 2	+0.96 97% 47	+1.06 94% 60	\$210 42 42	\$335 62 62
<b>NHZM586</b> NHZJ140 NHZH356	<b>HAZELDEAN M586</b> <sup>SV</sup> APR	+71 51% 14	+6.2 87% 17	+8.9 71% 3	-8.3 98% 6	+2.5 98% 20	+48 97% 63	+86 97% 69	+116 97% 56	+102 96% 50	+18 94% 42	+4.0 96% 6	-11.5 71% 1	+69 92% 46	+5.0 92% 66	+0.0 93% 49	+0.2 87% 71	+0.1 94% 10	+4.3 88% 96	+0.89 96% 5	+37 95% 6	+0.56 95% 62	+1.02 95% 62	+1.16 92% 85	\$270 2 2	\$456 1 1
<b>NHZQ319</b> NHZM586 NHZL1175	<b>HAZELDEAN Q319</b> <sup>PV</sup> APR	+70 51% 15	+4.2 76% 33	+9.2 61% 3	-8.7 97% 5	+2.7 97% 23	+54 96% 34	+105 95% 17	+142 95% 10	+139 88% 8	+17 80% 47	+3.3 94% 15	-11.6 56% 1	+78 83% 21	+5.6 83% 59	+1.8 83% 15	+0.4 83% 37	-0.6 76% 94	+4.3 84% 10	+0.53 82% 81	+32 96% 12	+0.82 89% 45	+1.06 88% 71	+1.14 84% 81	\$269 3 3	\$486 1 1
<b>VMIC31</b> USA14739204 VMIU102	<b>INNESDALE CARBINE C31</b> <sup>SV</sup> HBR	+33 61% 73	+1.2 86% 61	-6.0 77% 98	-1.6 95% 87	+5.3 97% 78	+37 96% 96	+63 96% 99	+82 95% 98	+87 94% 73	+20 94% 27	+0.5 93% 94	-5.3 67% 34	+36 92% 99	+3.1 91% 85	+0.0 91% 49	-0.8 91% 58	+1.0 86% 20	+0.8 92% 85	+0.39 84% 69	+6 90% 94	+0.66 82% 16	+0.94 82% 42	+1.08 77% 66	\$128 97 97	\$235 97 97
<b>BLAP130</b> SRKK306 BLAK113	<b>KNOWLA PACKER P130</b> <sup>PV</sup> HBR	+16 51% 95	+2.6 73% 48	+1.1 63% 70	-3.0 93% 72	+4.6 91% 64	+55 89% 29	+100 89% 26	+131 89% 25	+112 85% 33	+11 78% 90	+1.1 85% 84	-5.7 54% 26	+75 85% 29	+7.9 84% 32	+0.3 84% 42	-0.9 85% 60	+0.8 77% 29	+2.0 87% 55	+0.12 77% 39	+25 84% 30	+0.82 78% 45	+1.20 78% 92	+0.94 74% 23	\$231 20 20	\$390 19 19
<b>Breed Average EBVs</b>		<b>+47</b>	<b>+1.8</b>	<b>+2.7</b>	<b>-4.4</b>	<b>+4.0</b>	<b>+51</b>	<b>+92</b>	<b>+119</b>	<b>+102</b>	<b>+17</b>	<b>+2.2</b>	<b>-4.6</b>	<b>+67</b>	<b>+6.4</b>	<b>+0.0</b>	<b>-0.3</b>	<b>+0.5</b>	<b>+2.3</b>	<b>+0.22</b>	<b>+21</b>	<b>+0.84</b>	<b>+0.97</b>	<b>+1.02</b>	<b>+200</b>	<b>+344</b>

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Ident	Name																										
Sire Dam	Reg.	ImmuneDEX IMD	Calv-Ease		Birth		Growth			Maternal		Fert		Carcase					Feed	Temp	Structural		Selection Index				
			Dir	Dtrs	GL	BW	200	400	600	MCW	Milk	SS	DC	CW	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L	
<b>BLAP91</b> HIOG18 BLAL06	<b>KNOWLA PEPPER P91</b> <sup>PV</sup> HBR	+22 53% 89	+5.0 78% 26	+2.5 70% 57	-5.6 95% 31	+3.7 95% 43	+61 93% 12	+115 93% 5	+143 94% 10	+167 88% 1	+9 83% 95	+1.6 90% 69	-8.4 62% 2	+67 90% 52	+8.6 89% 25	+1.8 88% 15	-1.1 89% 63	+1.1 81% 16	+2.5 91% 42	+0.39 85% 69	-2 90% 99	+0.98 91% 76	+1.04 91% 67	+1.02 88% 47	\$260 5	\$481 1	
<b>VLYN131</b> USA16295688 VLYL710	<b>LAWSONS CHARLIE N131</b> <sup>SV</sup> HBR	+56 56% 35	-2.4 80% 83	-1.1 72% 85	-4.0 95% 57	+5.5 96% 81	+72 95% 1	+128 94% 1	+159 92% 2	+127 88% 16	+18 85% 43	+2.9 91% 24	-4.8 65% 45	+78 87% 21	+5.4 86% 61	-1.7 86% 84	-1.6 87% 71	-0.1 79% 80	+1.0 88% 81	+0.35 80% 65	+32 94% 12	+0.88 92% 58	+0.74 92% 7	+0.88 88% 11	\$232 19	\$396 16	
<b>VLYL483</b> HKFJ5 VLYH221	<b>LAWSONS LINKEDIN L483</b> <sup>SV</sup> HBR	+55 67% 36	+4.3 87% 32	-5.7 78% 97	-1.2 98% 90	+4.1 98% 52	+58 97% 20	+109 97% 11	+152 97% 4	+141 95% 7	+25 95% 6	+4.0 94% 6	-4.2 67% 60	+103 93% 1	+8.9 89% 23	-1.0 88% 71	+2.0 91% 15	+0.3 84% 59	+1.8 91% 61	-0.23 82% 11	+20 89% 52	+1.02 85% 82	+0.76 85% 9	+0.88 81% 11	\$208 44	\$383 24	
<b>VLYP316</b> USA16295688 VLYM527	<b>LAWSONS PROPHET P316</b> <sup>PV</sup> HBR	+16 58% 95	+6.1 78% 17	+5.3 69% 26	-2.2 93% 82	+3.3 96% 34	+58 94% 19	+90 94% 56	+107 92% 75	+62 87% 94	+18 79% 44	+0.3 90% 96	-4.3 58% 58	+71 81% 41	+11.0 82% 10	-3.8 82% 99	-3.9 82% 94	+1.6 77% 5	+3.9 83% 15	+0.41 78% 71	+29 93% 17	+0.62 90% 11	+0.70 90% 5	+0.80 85% 4	\$281 1	\$407 10	
<b>NMMD78</b> USA14237157 NMMY119	<b>MILLAH MURRAH EQUATOR D78</b> HBR	+53 68% 39	-0.6 96% 74	+6.2 89% 18	-9.1 99% 4	+5.0 99% 72	+62 98% 9	+111 98% 8	+158 98% 3	+184 97% 1	+18 98% 43	+2.1 98% 50	-4.0 81% 65	+90 96% 6	+1.8 95% 92	-1.7 96% 84	-3.4 96% 91	+0.9 94% 24	+0.0 95% 1	-0.99 89% 1	+22 98% 43	+0.82 95% 45	+0.94 95% 42	+1.08 92% 66	\$154 90	\$353 47	
<b>NMMH250</b> NMME78 NMME120	<b>MILLAH MURRAH HERCULES</b> HBR	+69 62% 16	-2.6 86% 84	+3.1 73% 50	-2.9 98% 73	+6.0 98% 87	+42 97% 86	+75 97% 90	+107 97% 76	+95 94% 61	+12 94% 84	+2.4 95% 39	-4.8 65% 45	+61 92% 70	+3.2 91% 84	-1.3 90% 77	-0.6 91% 54	+0.4 87% 53	+2.4 92% 44	+0.15 84% 43	+18 91% 59	+0.90 89% 62	+1.14 89% 85	+1.08 84% 66	\$154 90	\$275 91	
<b>NMMG18</b> NZE12170004408 NMMD85	<b>MILLAH MURRAH HIGHLANDER</b> HBR	+16 62% 95	-1.6 84% 79	-4.3 73% 95	-3.2 97% 69	+4.4 96% 59	+49 94% 58	+87 94% 64	+110 93% 69	+88 91% 72	+20 87% 29	+4.1 90% 5	-2.9 65% 85	+77 91% 23	+10.3 90% 13	-3.4 90% 97	-1.7 91% 73	+2.1 84% 1	-0.2 92% 97	-0.11 84% 18	+13 91% 81	+0.80 84% 41	+0.96 84% 47	+1.02 80% 47	\$173 79	\$285 88	
<b>NMMK35</b> NZE469 NMMG41	<b>MILLAH MURRAH KINGDOM K35</b> HBR	+37 73% 67	-11.9 96% 99	-7.2 89% 99	-2.0 99% 84	+8.8 99% 99	+55 98% 32	+99 98% 29	+137 98% 15	+149 98% 4	+11 98% 89	+0.9 98% 88	-5.3 81% 34	+62 96% 65	+7.7 95% 34	+0.1 95% 46	+0.1 95% 42	+1.1 94% 16	-1.1 95% 99	-0.73 89% 1	+27 98% 24	+0.82 96% 45	+1.28 96% 97	+1.20 94% 91	\$131 96	\$265 93	
<b>NMMK42</b> NGMT30 NMMH4	<b>MILLAH MURRAH KLOONEY K42</b> HBR	+4 75% 99	+4.2 86% 33	+1.7 83% 65	-6.1 99% 24	+5.6 99% 82	+47 98% 67	+86 99% 68	+107 98% 74	+89 98% 70	+23 98% 12	+2.1 98% 50	-5.5 83% 29	+65 97% 59	+6.4 95% 49	-1.2 96% 75	-3.1 96% 89	+1.2 94% 13	+1.8 95% 61	-0.06 89% 21	+17 99% 64	+0.84 97% 49	+0.90 97% 33	+1.08 95% 66	\$200 53	\$337 60	
<b>NMML133</b> USA17091363 NMMH49	<b>MILLAH MURRAH LOCH UP L133</b> HBR	+9 73% 99	+4.9 81% 27	+4.3 81% 37	-5.5 99% 32	+4.8 99% 68	+59 98% 18	+100 98% 28	+131 98% 24	+101 98% 51	+26 98% 5	+2.1 98% 50	-1.9 81% 94	+79 96% 20	+1.6 95% 93	-2.1 96% 89	-4.1 96% 95	-0.6 94% 94	+1.8 95% 61	-0.14 89% 16	+32 98% 13	+0.68 97% 18	+1.08 97% 75	+1.16 96% 85	\$168 83	\$307 79	
<b>NJWH283</b> NJWF189 NJWE51	<b>MILWILLAH ELSOM H283</b> <sup>PV</sup> HBR	+32 67% 75	+0.5 83% 66	-6.4 71% 98	-2.3 97% 81	+3.9 97% 48	+47 96% 68	+84 96% 74	+123 95% 41	+110 92% 37	+21 93% 18	+1.8 94% 62	-1.5 63% 96	+76 92% 27	+9.3 91% 19	-2.5 91% 93	-2.7 91% 86	+1.6 86% 5	+1.5 92% 69	+0.40 85% 70	+20 88% 53	+0.74 89% 28	+0.84 90% 20	+1.04 85% 53	\$153 90	\$273 91	
<b>NJWE158</b> NZEE230 VTMX114	<b>MILWILLAH LAD E158</b> <sup>SV</sup> HBR	+41 57% 60	-3.0 84% 86	-6.5 76% 98	-7.7 95% 10	+7.9 97% 99	+41 96% 89	+79 96% 84	+105 96% 78	+108 93% 40	+7 95% 98	+2.0 93% 54	-5.3 64% 34	+42 92% 97	+8.7 91% 24	-0.7 91% 65	-4.7 91% 97	+1.3 85% 10	+3.1 92% 28	+0.22 83% 51	+12 90% 81	+0.74 79% 28	+0.80 80% 14	+0.72 72% 1	\$157 89	\$280 89	
<b>CSWP036</b> USA17236055 CSWL123	<b>MURDEDUKE BLACK PEARL</b> HBR	+19 53% 92	+1.6 79% 57	+4.2 70% 38	-8.4 96% 6	+4.7 96% 66	+49 94% 58	+93 94% 46	+134 93% 20	+119 90% 24	+20 83% 27	+3.3 89% 15	-7.1 67% 8	+60 91% 72	+1.3 90% 94	+0.6 90% 35	-0.9 91% 60	-1.0 82% 98	+6.3 92% 1	+0.67 85% 89	+14 93% 77	+0.86 92% 54	+1.18 93% 90	+1.22 89% 93	\$214 37	\$382 24	
<b>Breed Average EBVs</b>		<b>+47</b>	<b>+1.8</b>	<b>+2.7</b>	<b>-4.4</b>	<b>+4.0</b>	<b>+51</b>	<b>+92</b>	<b>+119</b>	<b>+102</b>	<b>+17</b>	<b>+2.2</b>	<b>-4.6</b>	<b>+67</b>	<b>+6.4</b>	<b>+0.0</b>	<b>-0.3</b>	<b>+0.5</b>	<b>+2.3</b>	<b>+0.22</b>	<b>+21</b>	<b>+0.84</b>	<b>+0.97</b>	<b>+1.02</b>	<b>+200</b>	<b>+344</b>	

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Ident	Name																										
Sire Dam	Reg.	ImmuneDEX IMD	Calv-Ease		Birth		Growth			Maternal			Fert		Carcase				Feed	Temp	Structural		Selection Index				
			Dir	Dtrs	GL	BW	200	400	600	MCW	Milk	SS	DC	CW	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L	
<b>CSWH211</b> VTME343 CSWE175	<b>MURDEDUKE HUSSAR H211</b> <sup>PV</sup> HBR	+7 65% 99	+1.8	+5.4	-8.7	+6.1	+60	+117	+152	+165	+12	+4.0	-5.2	+82	+1.7	-2.0	-5.5	+0.8	-0.6	-0.71	+29	+0.52	+0.86	+1.02	\$160	\$360	
<b>CSWK428</b> VTME343 CSWE175	<b>MURDEDUKE KICKING K428</b> <sup>PV</sup> HBR	+31 74% 77	+7.4	+9.0	-7.6	+1.8	+48	+93	+115	+87	+24	+3.3	-5.5	+66	+2.1	-0.3	-2.9	+0.4	+0.7	-0.11	+41	+0.88	+1.00	+1.20	\$189	\$344	
<b>NURM208</b> SMPG357 NURK45	<b>MURRAY GENESIS M208</b> <sup>PV</sup> HBR	+39 73% 64	+1.1	+5.5	-5.9	+4.6	+50	+95	+129	+108	+19	+3.8	-6.1	+82	+16.4	-0.6	-2.6	+2.1	+0.9	+1.38	+7	+0.90	+1.00	+0.68	\$232	\$391	
<b>NURN70</b> NORK522 NURJ53	<b>MURRAY KODAK N70</b> <sup>PV</sup> HBR	+57 53% 33	+1.0	+3.5	-6.7	+4.4	+57	+102	+136	+139	+15	+5.2	-6.3	+80	+9.4	-1.2	-1.4	+0.9	+3.7	-0.33	+14	+0.94	+0.90	+0.92	\$233	\$417	
<b>NURM204</b> USA16956101 NURJ43	<b>MURRAY PROCEED M204</b> <sup>PV</sup> HBR	+46 77% 51	-5.6	+7.4	-4.4	+4.3	+62	+107	+144	+134	+19	+2.3	-2.9	+90	+13.7	-4.8	-5.8	+0.8	+6.7	+0.09	+24	+0.94	+0.74	+0.90	\$232	\$385	
<b>NURP54</b> USA16350631 NURM13	<b>MURRAY TWINHEARTS P54</b> <sup>PV</sup> HBR	+16 51% 95	+0.3	+4.2	-6.0	+6.7	+70	+126	+166	+158	+23	+1.8	-4.2	+103	+8.1	-2.1	-4.0	+0.9	+3.0	+0.19	+18	+0.84	+1.22	+0.88	\$248	\$439	
<b>SFNL21</b> NZE10322010609 SFNH65	<b>NAMPARA LIBERTY L21</b> <sup>SV</sup> HBR	+58 70% 31	-5.0	-2.9	-6.5	+8.6	+66	+110	+147	+166	+18	+2.8	-1.0	+78	+8.0	-1.9	-0.8	+1.9	-2.6	-0.63	+23	+0.90	+0.88	+1.00	\$137	\$293	
<b>SKOJ6</b> VTME343 NZCE115	<b>NEWLYN PARK EMPEROR J6</b> <sup>PV</sup> HBR	+12 64% 98	-7.1	-4.4	-7.3	+7.4	+64	+112	+144	+159	+10	+1.4	-4.3	+81	+8.0	-1.1	-1.2	+1.4	+0.3	-0.70	+16	+1.06	+0.80	+0.78	\$184	\$344	
<b>NZE21095018</b> HIOE7 NZE21095112H49	<b>NGAPUTAH I P206</b> <sup>PV</sup> HBR	+81 55% 5	+9.7	+4.9	-1.5	+0.0	+42	+84	+97	+73	+28	+2.7	-7.6	+53	+5.9	-0.3	-2.8	+1.2	+4.3	+0.19	+17	+0.96	+1.04	+1.12	\$245	\$392	
<b>USA16981588</b> USA16381311 USA16408070	<b>PA FULL POWER 1208</b> <sup>PV</sup> HBR	+63 76% 24	-5.5	-4.7	-4.9	+3.8	+53	+99	+121	+76	+13	+2.1	-2.7	+72	+13.1	-1.7	+0.2	+1.2	+3.2	+0.91	+21	+1.24	+0.94	+0.70	\$229	\$333	
<b>HKFE27</b> VTMA149 FAFC1	<b>PARINGA IRON ORE E27</b> <sup>PV</sup> HBR	+88 66% 2	+6.5	+0.7	-6.9	+2.0	+35	+67	+89	+96	+13	+1.9	-7.2	+66	+6.8	+1.5	+2.6	+1.2	+1.7	+0.33	+31	+0.88	+0.88	+0.98	\$186	\$335	
<b>SMPG357</b> VTMB1 SMPD245	<b>PATHFINDER GENESIS G357</b> <sup>PV</sup> HBR	+41 65% 60	+0.1	+3.8	-7.2	+6.7	+61	+108	+147	+137	+25	+4.4	-5.8	+95	+13.5	+0.4	-0.8	+1.5	-0.1	+0.62	+27	+0.86	+1.04	+0.78	\$227	\$404	
<b>SMPK22</b> SMPG357 SMPH756	<b>PATHFINDER COMPLETE K22</b> <sup>SV</sup> HBR	+73 73% 12	+10.3	+8.4	-9.1	+0.9	+40	+74	+95	+47	+27	+3.0	-5.7	+52	+6.2	+3.5	+5.3	+0.3	+2.1	+0.51	+26	+0.50	+0.82	+0.66	\$232	\$358	
<b>Breed Average EBVs</b>		<b>+47</b>	<b>+1.8</b>	<b>+2.7</b>	<b>-4.4</b>	<b>+4.0</b>	<b>+51</b>	<b>+92</b>	<b>+119</b>	<b>+102</b>	<b>+17</b>	<b>+2.2</b>	<b>-4.6</b>	<b>+67</b>	<b>+6.4</b>	<b>+0.0</b>	<b>-0.3</b>	<b>+0.5</b>	<b>+2.3</b>	<b>+0.22</b>	<b>+21</b>	<b>+0.84</b>	<b>+0.97</b>	<b>+1.02</b>	<b>+200</b>	<b>+344</b>	



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Ident	Name																										
Sire Dam	Reg.	ImmuneDEX IMD	Calv-Ease		Birth		Growth			Maternal			Fert		Carcase					Feed	Temp	Structural		Selection Index			
			Dir	Dtrs	GL	BW	200	400	600	MCW	Milk	SS	DC	CW	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L	
<b>SMPM651</b> VTMG67 SMPH66	<b>PATHFINDER MASTERPIECE</b> HBR	+31 60% 77	+3.2 80% 43	+4.8 72% 31	-6.0 92% 26	+5.2 95% 76	+57 93% 23	+105 92% 15	+132 92% 23	+138 88% 9	+21 87% 22	+3.7 88% 9	-7.7 63% 4	+54 88% 85	+9.4 86% 19	-1.9 86% 87	-3.8 87% 94	+1.7 80% 4	+1.4 88% 72	-0.27 80% 9	+33 83% 10	+0.96 77% 73	+1.22 77% 93	+1.18 74% 89	\$235 17	\$426 5	
<b>SMPM558</b> VTMG67 SMPH458	<b>PATHFINDER MAXIMUS M558 PV</b> HBR	+25 75% 85	-1.9 84% 81	+2.5 74% 57	-6.8 96% 17	+5.9 97% 86	+60 95% 14	+99 95% 30	+128 95% 31	+137 92% 9	+20 92% 25	+4.6 93% 3	-8.4 66% 2	+53 91% 87	+10.9 90% 10	-2.6 89% 93	-2.5 91% 83	+0.9 87% 24	+3.5 91% 21	-0.35 84% 6	+49 86% 1	+0.92 78% 66	+1.08 79% 75	+0.84 76% 7	\$240 14	\$418 7	
<b>SMPN56</b> HIOG18 SMPL179	<b>PATHFINDER NUCLEUS N56 SV</b> HBR	+34 50% 72	+3.5 80% 40	+2.0 69% 62	-3.4 96% 66	+5.4 97% 79	+60 95% 13	+107 95% 13	+140 95% 12	+137 90% 9	+16 89% 56	+4.6 93% 3	-7.3 63% 6	+77 91% 25	+13.5 90% 3	+0.7 90% 33	+0.6 91% 33	+1.2 82% 13	+1.5 92% 69	+0.38 85% 68	+9 89% 89	+0.76 86% 32	+0.80 87% 14	+0.84 81% 7	\$257 5	\$449 2	
<b>NZE41-97</b> NZE53195 NZE63988	<b>PINEBANK WAIGROUP 41/97 #</b> HBR	+61 69% 27	+3.5 96% 40	-3.7 90% 94	-3.5 98% 64	+3.6 99% 41	+37 98% 95	+64 98% 98	+77 98% 99	+52 98% 98	+19 98% 37	+1.0 97% 86	-3.8 88% 70	+18 97% 99	+5.3 96% 63	+1.1 96% 25	+0.2 96% 40	+0.9 95% 24	+1.1 96% 79	-0.06 90% 21	+33 93% 11	+0.32 87% 1	+0.94 87% 42	+1.00 82% 40	\$156 89	\$244 96	
<b>NORE11</b> NGMY145 VLYY5	<b>RENNYLEA EDMUND E11 PV</b> HBR	+24 79% 87	+8.7 99% 4	+1.1 97% 70	-6.8 99% 17	+1.2 99% 6	+34 99% 98	+64 99% 98	+84 99% 97	+54 99% 57	+16 99% 57	+1.9 99% 58	-7.5 94% 5	+52 98% 88	+3.9 98% 78	+3.3 98% 4	+1.4 98% 22	-0.1 98% 80	+4.0 98% 13	+0.77 96% 93	+23 99% 39	+0.56 99% 6	+1.04 99% 67	+1.10 99% 72	\$203 51	\$323 70	
<b>NORG255</b> BNAD145 NORC490	<b>RENNYLEA G255 PV</b> APR	+63 81% 24	-10.7 81% 99	-5.6 79% 97	-3.0 98% 72	+4.6 98% 64	+49 98% 57	+94 98% 45	+128 98% 31	+127 98% 16	+21 98% 23	+0.6 97% 93	-3.5 82% 76	+89 96% 6	+7.1 95% 41	-0.7 95% 65	-3.8 96% 94	+0.8 93% 29	+5.0 95% 5	-0.01 90% 26	+9 97% 89	+1.18 95% 96	+0.92 95% 37	+0.84 93% 7	\$160 87	\$278 90	
<b>NORH708</b> NORC511 NORE176	<b>RENNYLEA H708 PV</b> APR	+96 86% 1	-7.0 93% 95	+3.1 84% 50	+1.2 98% 99	+4.7 98% 66	+47 98% 68	+101 98% 23	+129 98% 28	+129 97% 14	+12 97% 85	+2.5 97% 36	-3.1 80% 83	+73 96% 35	+12.4 95% 5	-3.7 95% 98	-6.5 95% 99	+2.1 93% 1	+7.1 95% 1	+0.68 92% 90	+21 98% 48	+0.72 98% 25	+0.68 98% 4	+0.90 97% 15	\$216 35	\$359 41	
<b>NORK163</b> NORH106 NORE176	<b>RENNYLEA K163 PV</b> APR	+29 80% 80	+5.3 89% 24	-7.3 79% 99	-3.8 98% 60	+2.5 98% 20	+39 98% 92	+73 98% 93	+94 97% 92	+66 97% 93	+9 96% 94	+0.7 95% 91	-4.6 77% 50	+60 95% 71	+18.6 94% 1	-0.1 94% 51	-0.9 94% 60	+2.6 91% 1	+2.4 94% 44	+0.18 88% 46	+18 91% 59	+0.66 90% 16	+0.72 90% 6	+1.02 87% 47	\$232 19	\$343 55	
<b>NORK835</b> NORG420 NORH514	<b>RENNYLEA K835 PV</b> APR	+18 67% 93	-4.3 83% 90	-4.6 70% 96	-2.0 98% 84	+6.3 95% 91	+47 96% 66	+87 95% 66	+112 95% 65	+96 91% 59	+11 89% 88	+3.0 90% 72	-3.7 65% 85	+54 90% 85	+10.1 89% 14	+1.0 89% 27	-1.1 89% 63	+0.4 86% 53	+4.2 90% 11	-0.14 81% 16	+10 92% 87	+0.62 89% 11	+1.08 89% 75	+1.12 86% 77	\$182 72	\$298 83	
<b>NORK522</b> NORE11 NORF810	<b>RENNYLEA KODAK K522 SV</b> HBR	+47 71% 50	+8.8 94% 4	+9.0 83% 3	-4.8 99% 43	+1.4 99% 8	+45 98% 75	+83 98% 75	+109 98% 72	+110 97% 36	+10 97% 92	+4.6 98% 3	-6.8 74% 10	+51 95% 89	+3.2 93% 84	+3.1 94% 5	+1.5 94% 21	-0.3 92% 87	+3.9 88% 15	+0.23 88% 52	+7 96% 94	+0.62 97% 11	+0.82 97% 17	+0.96 95% 28	\$205 47	\$385 22	
<b>NORL508</b> USA17366506 NORH414	<b>RENNYLEA L508 PV</b> HBR	+75 55% 10	+1.2 84% 61	+7.8 78% 7	-5.9 99% 27	+2.6 99% 21	+45 98% 75	+85 98% 70	+117 98% 54	+92 98% 66	+27 98% 3	+1.4 98% 75	-6.9 81% 9	+56 96% 81	+5.2 95% 64	+1.1 95% 25	+0.0 95% 44	-0.1 93% 80	+5.1 95% 4	+0.68 89% 90	+16 99% 68	+0.68 98% 18	+0.84 98% 20	+0.88 97% 11	\$229 22	\$376 29	
<b>NORL683</b> NORE11 NORJ631	<b>RENNYLEA L683 PV</b> APR	+73 71% 12	+2.3 84% 51	+1.4 74% 68	-4.4 98% 50	+5.0 97% 72	+55 96% 31	+95 96% 41	+119 96% 50	+106 94% 43	+5 92% 99	+2.3 95% 43	-6.0 69% 20	+80 91% 18	+4.7 90% 70	+0.8 88% 31	-1.2 91% 65	+0.8 85% 29	+2.3 91% 47	+0.60 85% 86	+24 95% 36	+0.72 92% 25	+0.88 92% 28	+1.00 89% 40	\$225 25	\$379 26	
<b>NORM1078</b> NORH708 NORF563	<b>RENNYLEA M1078 SV</b> APR	+75 55% 10	-5.4 79% 93	-0.4 68% 81	-1.9 97% 85	+3.3 96% 34	+41 95% 89	+82 95% 77	+101 95% 84	+101 93% 51	+11 89% 88	+1.7 93% 65	-4.7 65% 48	+59 92% 75	+10.4 91% 12	-1.9 90% 87	-5.3 91% 98	+1.0 83% 20	+7.8 92% 1	+0.75 85% 93	+11 94% 86	+0.92 92% 66	+1.02 92% 62	+1.14 89% 81	\$200 54	\$323 70	
<b>Breed Average EBVs</b>		<b>+47</b>	<b>+1.8</b>	<b>+2.7</b>	<b>-4.4</b>	<b>+4.0</b>	<b>+51</b>	<b>+92</b>	<b>+119</b>	<b>+102</b>	<b>+17</b>	<b>+2.2</b>	<b>-4.6</b>	<b>+67</b>	<b>+6.4</b>	<b>+0.0</b>	<b>-0.3</b>	<b>+0.5</b>	<b>+2.3</b>	<b>+0.22</b>	<b>+21</b>	<b>+0.84</b>	<b>+0.97</b>	<b>+1.02</b>	<b>+200</b>	<b>+344</b>	

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Ident	Name																										
Sire Dam	Reg.	ImmuneDEX IMD	Calv-Ease		Birth		Growth			Maternal			Fert			Carcase					Feed	Temp	Structural		Selection Index		
			Dir	Dtrs	GL	BW	200	400	600	MCW	Milk	SS	DC	CW	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L	
<b>NORP987</b> NORM763 NORM1184	<b>RENNYLEA P987</b> <sup>PV</sup> APR	+60 52% 28	+10.3 74% 1	+9.6 64% 2	-7.9 97% 8	+1.4 97% 8	+51 96% 51	+98 95% 33	+123 95% 40	+128 92% 15	+9 86% 95	+0.4 93% 95	-2.9 61% 85	-2.9 89% 32	+74 88% 59	+5.6 88% 4	+3.3 88% 15	+2.1 80% 98	-1.0 90% 98	+7.7 81% 97	+0.95 95% 94	+7 92% 58	+0.88 92% 42	+0.94 92% 42	+1.06 88% 60	\$228 23	\$414 8
<b>NORQ1081</b> NORH708 NORL841	<b>RENNYLEA Q1081</b> <sup>PV</sup> APR	+82 57% 4	-2.9 76% 85	+5.0 66% 29	-3.7 92% 61	+3.9 93% 48	+51 92% 50	+90 91% 56	+117 92% 54	+104 87% 47	+12 80% 87	+3.4 88% 13	-5.5 58% 29	+50 81% 91	+10.0 82% 15	+0.3 82% 42	-1.2 82% 65	+0.7 77% 35	+6.4 83% 1	+0.77 80% 93	+14 89% 77	+0.84 87% 49	+0.88 88% 28	+0.90 83% 15	\$242 12	\$386 21	
<b>NORQ213</b> NORK907 NORL110	<b>RENNYLEA Q213</b> <sup>PV</sup> APR	+28 53% 81	+9.4 80% 3	+7.2 68% 11	-7.1 97% 14	+1.1 97% 6	+66 97% 4	+120 96% 3	+151 96% 5	+97 92% 58	+24 85% 8	+0.8 95% 90	-9.9 58% 1	+103 89% 1	+8.8 87% 23	+0.6 87% 35	+0.1 87% 42	+0.2 80% 65	+3.2 89% 26	+0.71 80% 91	+28 96% 22	+0.52 94% 4	+0.72 94% 6	+0.84 90% 7	\$341 1	\$533 1	
<b>NORR992</b> NORN542 NORM1034	<b>RENNYLEA R992</b> <sup>PV</sup> APR	+32 50% 75	+5.4 68% 23	+6.6 59% 15	+2.0 95% 99	+1.3 95% 7	+43 93% 82	+83 92% 75	+116 92% 57	+85 87% 76	+27 79% 3	+1.7 90% 65	-5.8 51% 24	+69 80% 45	+10.9 80% 10	+1.7 80% 16	+2.0 80% 15	-0.1 74% 80	+6.1 81% 1	+1.14 67% 99	+25 92% 31	+0.62 75% 11	+0.80 76% 14	+0.84 74% 7	\$250 8	\$400 14	
<b>USA16396573</b> USA0035 USA15688516	<b>S A V CAMARO 9272</b> <sup>SV</sup> HBR	+35 66% 70	+4.2 86% 33	+0.3 73% 76	-6.8 97% 17	+3.6 97% 41	+49 96% 59	+79 96% 84	+99 96% 87	+102 93% 49	+9 94% 96	+1.2 91% 81	-6.1 62% 19	+41 93% 98	+0.3 91% 97	-0.3 91% 56	-2.4 91% 82	+0.9 84% 24	+1.6 92% 66	+1.09 84% 99	+20 87% 50	+1.08 86% 89	+0.84 86% 20	+0.82 78% 5	\$180 74	\$322 70	
<b>APBK11</b> VTMB1 APBF2	<b>SHACORRAHDALU KINETIC K11</b> HBR	+20 51% 91	+9.8 78% 2	+10.1 70% 1	-9.1 93% 4	+0.4 92% 3	+49 91% 58	+88 90% 61	+104 91% 81	+95 87% 60	+11 83% 90	+4.6 84% 3	-6.6 64% 12	+65 86% 58	+10.5 84% 12	+3.5 84% 3	+2.2 85% 14	+0.8 77% 29	+2.1 86% 52	+0.84 78% 95	+1 86% 99	+0.98 82% 76	+1.16 81% 88	+1.08 78% 66	\$243 12	\$418 7	
<b>NZE19507013</b> VTME343 NZE19507111G183	<b>STORTH OAKS JACK J7</b> <sup>SV</sup> HBR	+14 69% 97	+5.1 89% 25	+7.8 79% 7	-4.8 98% 43	+4.5 98% 62	+61 97% 11	+113 97% 6	+152 97% 4	+144 95% 6	+18 95% 43	+3.5 96% 12	-1.0 70% 98	+81 94% 16	+8.1 93% 30	-0.1 92% 51	-2.9 93% 87	-0.3 90% 44	+2.4 93% 26	-0.01 86% 56	+19 96% 79	+1.00 93% 53	+0.98 93% 11	+0.88 89% 74	\$180 74	\$361 40	
<b>VSNQ34</b> VTMB1 VSNE22	<b>STRATHEWEN BERKLEY G34</b> <sup>PV</sup> HBR	+40 70% 62	+7.4 84% 9	+7.7 75% 8	-6.6 95% 19	+3.5 94% 38	+57 93% 24	+108 92% 12	+142 93% 10	+147 91% 5	+19 89% 37	+2.4 87% 39	-7.3 68% 6	+82 91% 14	+5.9 90% 55	+1.0 89% 27	+0.1 90% 42	+0.3 86% 59	+1.8 91% 61	-0.08 85% 20	+30 89% 17	+1.12 88% 92	+1.26 88% 96	+1.10 84% 72	\$232 19	\$442 2	
<b>USA17236055</b> USA15354674 USA16214508	<b>SYDGEN BLACK PEARL 2006</b> <sup>PV</sup> HBR	+8 76% 99	+2.0 98% 54	+7.9 93% 7	-7.1 99% 14	+3.2 99% 32	+51 99% 47	+86 99% 69	+123 99% 40	+87 98% 73	+21 99% 20	+1.6 99% 69	-3.6 89% 74	+74 98% 32	+8.6 97% 25	+0.6 97% 35	+0.1 97% 42	+0.4 96% 53	+2.6 97% 56	+0.27 92% 56	+15 99% 72	+1.02 99% 82	+1.18 99% 90	+1.14 98% 81	\$214 37	\$348 51	
<b>VTMA149</b> VTMX60 VTMU338	<b>TE MANIA ADA A149</b> <sup>PV</sup> HBR	+39 64% 64	-6.6 97% 95	-1.5 91% 87	-3.2 99% 69	+6.6 99% 93	+53 99% 38	+97 99% 34	+130 98% 26	+171 98% 1	+10 98% 94	+2.0 86% 54	-1.9 97% 94	+83 96% 13	+3.0 96% 85	-3.3 97% 97	-2.0 97% 77	+1.4 96% 8	-0.4 91% 98	-0.68 91% 1	+26 97% 27	+0.88 97% 58	+0.74 97% 7	+0.78 96% 3	\$95 99	\$250 95	
<b>VTMK52</b> USA16295688 VTMH423	<b>TE MANIA KALIBROOK K52</b> <sup>PV</sup> HBR	+45 71% 53	+7.8 78% 8	+5.5 70% 24	-3.1 94% 70	+1.5 95% 8	+51 92% 47	+103 92% 20	+128 91% 30	+102 87% 49	+30 83% 1	+1.7 87% 65	-5.8 65% 24	+71 87% 39	+3.3 86% 83	+0.5 84% 37	+2.2 87% 14	-0.6 82% 94	+5.4 88% 3	+1.48 79% 99	+9 87% 90	+1.18 89% 96	+1.08 89% 75	+1.12 86% 77	\$250 8	\$422 6	
<b>VTMK138</b> USA16295688 VTMH17	<b>TE MANIA KIRBY K138</b> <sup>PV</sup> HBR	+18 68% 93	+0.3 88% 68	+7.8 79% 7	-1.3 99% 90	+4.6 99% 64	+52 98% 43	+89 98% 58	+118 98% 52	+97 98% 58	+19 97% 37	+2.5 98% 36	-9.4 81% 55	+66 97% 57	+5.8 96% 20	+1.4 96% 20	+3.2 97% 7	-1.6 94% 99	+8.4 96% 1	+1.05 88% 99	+14 99% 76	+0.78 99% 36	+0.74 99% 7	+0.94 99% 23	\$274 2	\$438 3	
<b>VTMN424</b> VTMJ89 VTMJ214	<b>TE MANIA NEBO N424</b> <sup>PV</sup> HBR	+51 51% 43	+9.4 89% 3	+0.4 82% 76	-6.7 98% 18	+4.2 98% 55	+54 98% 35	+101 98% 24	+133 98% 22	+104 97% 47	+28 96% 2	+4.4 97% 4	-4.0 66% 65	+58 96% 77	+7.0 96% 42	-1.0 94% 71	-4.1 96% 95	+0.4 88% 53	+3.9 94% 15	-0.15 83% 15	+46 98% 1	+0.90 98% 62	+0.84 98% 20	+0.94 97% 23	\$213 39	\$367 36	
<b>Breed Average EBVs</b>		<b>+47</b>	<b>+1.8</b>	<b>+2.7</b>	<b>-4.4</b>	<b>+4.0</b>	<b>+51</b>	<b>+92</b>	<b>+119</b>	<b>+102</b>	<b>+17</b>	<b>+2.2</b>	<b>-4.6</b>	<b>+67</b>	<b>+6.4</b>	<b>+0.0</b>	<b>-0.3</b>	<b>+0.5</b>	<b>+2.3</b>	<b>+0.22</b>	<b>+21</b>	<b>+0.84</b>	<b>+0.97</b>	<b>+1.02</b>	<b>+200</b>	<b>+344</b>	

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Ident	Name		Calv-Ease		Birth		Growth			Maternal			Fert			Carcase				Feed	Temp	Structural			Selection Index	
Sire Dam	Reg.	ImmuneDEX IMD	Dir	Dtrs	GL	BW	200	400	600	MCW	Milk	SS	DC	CW	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L
<b>VTMN1387</b> VTMK138 VTML452	<b>TE MANIA NEON N1387 SV</b> HBR	+19 50% 92	-0.1	+4.5	-6.0	+3.6	+48	+87	+105	+95	+18	+1.4	-8.4	+48	+2.3	-0.1	-1.7	-1.6	+8.9	-0.03	+25	+0.72	+0.80	+0.98	\$232	\$382
<b>VTMP888</b> VTMK226 VTMH423	<b>TE MANIA PESO P888 PV</b> HBR	+53 56% 39	+8.2	+6.2	-5.2	+1.9	+56	+113	+143	+118	+26	+2.1	-6.0	+90	+5.5	-0.4	+1.2	+0.6	+1.4	-0.02	+23	+0.84	+1.10	+0.96	\$251	\$438
<b>DBLL292</b> USA16295688 VSNF04	<b>TOPBOS LEADING EDGE L292 PV</b> HBR	+26 74% 84	+2.1	+7.3	-5.8	+6.6	+73	+126	+164	+147	+22	+1.4	-3.9	+84	+4.1	-2.7	-5.3	+0.2	+1.4	+0.05	+21	+0.94	+0.76	+0.80	\$225	\$411
<b>NZE17691009</b> NZE17691003Y167 NZE17691195Q263	<b>TURIHUA CRUMP E5 SV</b> HBR	+77 63% 8	-1.6	-2.2	-5.8	+3.3	+29	+59	+85	+93	+14	+1.2	-10.2	+17	-0.2	+5.2	+3.4	-0.2	+1.4	+0.46	+28	+0.60	+1.18	+1.18	\$138	\$268
<b>BSCF73</b> USA15688392 BSCZ66	<b>WAITARA PIO FEDERAL F73 SV</b> HBR	+50 76% 44	+4.5	+4.8	-4.3	+1.6	+56	+104	+135	+92	+25	+2.6	-2.9	+88	+5.8	-0.2	+0.1	+0.2	+1.5	+0.29	+11	+1.36	+1.22	+0.98	\$217	\$362
<b>QKBP29</b> SMPG357 QKBM01	<b>WARRAWEE PATROL P29 PV</b> HBR	+58 64% 31	+6.8	+10.8	-12.0	+3.1	+55	+104	+139	+132	+19	+2.2	-9.3	+99	+9.2	+3.5	+1.8	+0.4	+1.8	+0.75	+28	+0.82	+1.20	+1.00	\$266	\$477
<b>NWPG188</b> USA15462648 NWPE295	<b>WATTLETOP FRANKLIN G188 SV</b> HBR	+49 65% 46	+4.1	+6.4	-4.4	+2.3	+64	+109	+141	+116	+25	+3.8	-3.4	+83	+1.1	-1.4	-2.2	-0.2	+0.5	-1.20	+32	+1.10	+0.96	+0.96	\$190	\$354
<b>CWDJ17</b> BNAD145 CWDF14	<b>WEATHERLY JAMES J17 SV</b> HBR	+36 74% 69	-3.7	-3.9	-3.2	+6.0	+49	+83	+110	+117	+3	+1.4	-4.1	+65	+8.4	+1.1	+2.3	+1.1	+3.4	-0.01	+5	+0.86	+1.24	+1.04	\$195	\$327
<b>CWDM5</b> SMPG357 CWDJ15	<b>WEATHERLY MOXY M5 SV</b> HBR	+44 52% 55	+3.7	+7.3	-4.6	+4.0	+55	+98	+131	+114	+28	+2.6	-5.7	+89	+7.3	+2.3	-0.5	+0.6	+2.3	+0.19	+20	+0.96	+1.04	+0.94	\$229	\$396
<b>Breed Average EBVs</b>		<b>+47</b>	<b>+1.8</b>	<b>+2.7</b>	<b>-4.4</b>	<b>+4.0</b>	<b>+51</b>	<b>+92</b>	<b>+119</b>	<b>+102</b>	<b>+17</b>	<b>+2.2</b>	<b>-4.6</b>	<b>+67</b>	<b>+6.4</b>	<b>+0.0</b>	<b>-0.3</b>	<b>+0.5</b>	<b>+2.3</b>	<b>+0.22</b>	<b>+21</b>	<b>+0.84</b>	<b>+0.97</b>	<b>+1.02</b>	<b>+200</b>	<b>+344</b>

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