

# **ANGUS ImmuneDEX**

# RESEARCH BREEDING VALUES

**MARCH 2023** 

#### **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. carcase 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.

#### 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.

Date:

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Ident	Name																									
Sire	<del></del>	ImmuneDE	Calv	-Ease	Bi	rth		Growth	<u> </u>	Mat	ernal	F	ert			Card	ase			Feed	Temp	<u> </u>	tructura	<u> </u>	Selection	on Index
Dam	Reg.	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
NXOL172	AJC L172 <sup>sv</sup>	+46	+6.4	+7.1	-8.0	+3.1	+61	+107	+150	+139	+14	+2.0	-4.5	+77	+6.1	-0.6	-0.3	+0.2	+1.3	-0.96	+26	+1.40	+1.32	+1.24	\$218	\$407
NXOF43 NXOJ432	APR	69% 51	73% 19	56% 11	93% 9	95% 28	94% 9	93% 10	93% 4	85% 6	83% 75	79% 52	52% 53	90% 19	87% 52	82% 62	88% 49	80% 66	89% 73	81% 1	82% 24	85% 99	85% 98	81% 95	30	9
DGJG10	ALLOURA GET CRACKING G10 SV	+53	+9.6	+8.7	-3.6	+2.5	+43	+74	+87	+77	+14	-0.2	-8.2	+47	+16.4	+1.6	-0.1	+1.1	+5.5	+0.55	+0	+0.50	+1.02	+0.94	\$280	\$435
VTMB1 DGJZ15	HBR	69% 40	92% 4	78% 4	99% 69	98% 18	98% 81	98% 89	98% 95	97% 85	96% 77	97% 99	74% 1	95% 94	93% 1	93% 16	94% 45	89% 14	92% 2	87% 89	96% 99	96% 3	95% 61	93% 20	1	3
DGJL94	ALLOURA LOCK STOCK &	+44	+6.7	+5.2	-4.7	+2.9	+54	+88	+113	+107	+13	+0.8	-4.8	+61	+0.6	+1.3	-1.5	+0.3	+2.3	-0.37	+21	+0.92	+0.86	+0.94	\$199	\$355
USA15832750 DGJH24	HBR	64% 55	73% 17	58% 27	93% 51	95% 25	92% 32	92% 59	93% 59	87% 39	76% 85	85% 91	50% 44	86% 68	81% 97	77% 20	82% 71	74% 60	84% 44	73% 4	86% 44	84% 65	82% 23	76% 20	51	42
WJMF96	ARDCAIRNIE F96 SV	+21	+5.7	+3.8	-4.9	+3.0	+50	+90	+122	+93	+17	+1.9	-4.5	+69	+7.4	-1.4	-0.9	+1.2	+0.6	-0.32	+10	+0.50	+0.84	+0.92	\$209	\$353
WJMB59	HBR	55%	88%		98%		97%			95%	95%			92%	90%	91%	91%	86%	91%	79%	88%	87%	87%	82%		
WJMD25		90	25	42	47	26	52	52	39	64	54	57	53	42	35	79	61	11	88	5	92	3	19	16	40	43
WJMJ27	ARDCAIRNIE J27 SV	+16	+7.8		-8.8		+57	+101				+0.4	-4.5	+98	+2.2	+2.2	+1.2	-0.1	+1.0	+0.29	+1	+0.86	+1.06	+1.18	\$204	\$391
USA15354674 WJMG96	HBR	74% 95	79% 11	67% 2	96% 5	96% 21	95% 19	96% 22	96% 10	91% 10	89% 94	92% 96	63% 53	92% 1	91% 92	90% 9	91% 23	87% 82	92% 80	85% 64	83% 99	87% 52	87% 70	82% 88	46	16
NAQA241	ARDROSSAN EQUATOR A241 PV	+49	-1.2	+2.3	-4.9	+4.1	+49		+121	+108	+20	+3.1	-8.0	+86	+8.8	-1.7	-0.6	+1.3	+1.4	+0.51	+26	+0.48	+0.86	+1.00	\$221	\$375
USA2928	HBR	80%	99%		99%	99%	99%	99%	99%	99%	99%				98%	98%	98%	98%	98%	96%	99%	99%	99%	99%	·	•
NAQW38		46	79	58	47	50	53	48	41	37	24	16	1	7	22	84	55	8	70	86	25	2	23	37	27	26
NAQN329	ARDROSSAN HOLBROOK N329	+21	-0.2	-1.6	-3.3	+3.1	+50	+93	+120	+91	+23	+3.0	-6.4	+74	+6.7	+2.0	+2.2	-0.9	+4.6	+1.03	+13	+0.80	+1.00	+1.02	\$220	\$359
NAQH318 NAQK30	HBR	54%	70%	55% 87	96%			92% 41	91%	84%	70%			88% 28	87%	86%	87%	78% 98	89% 5	79% 99	79% 83	81% 39	87% 56	83%	28	39
NAQH255	ADDDOCCAN HONOUD HOSE PV	90	-0.7	-1.1	-3.1	28 +4.6	48 +44		+98	67 +89	10 +13	18 +2.1	-7.3	+61	+5.8	11	-0.9	+0.5	+2.4	+0.93	+6	+0.46	+1.02	+1.26	\$185	\$312
NORE11	ARDROSSAN HONOUR H255 PV HBR	81%	95%		99%				98%	98%	98%	98%		96%	95%	+1.1 96%	96%	94%	96%	91%	97%	97%	97%	95%	φ105	φ312
NAQD17	TIBIX	82	76	85	76	62	78	90	85	69	80	48	3	67	56	23	61	47	41	99	97	2	61	96	67	73
QQFH147	ASCOT HALLMARK H147 PV	+47	-5.8	+3.6	-5.3	+7.4	+60	+109	+153	+132	+15	+3.5	-5.6	+85	-2.4	+0.6	+0.5	-0.8	+2.6	+0.49	+14	+0.44	+0.82	+1.02	\$186	\$343
VTME343	HBR	72%	94%						98%	97%	97%			95%	94%	95%	95%	93%	94%	87%	97%	95%	94%	92%		
NMMF123		50	94	44	41	97	11	8	3	9	68	9	24	7	99	33	34	97	36	84	79	1	16	44	65	52
HIOE7	AYRVALE BARTEL E7 PV	+41 85%	+10.1 99%		-5.1 99%	+1.7 99%	+49 99%		+112		+26			+67	+8.2	-0.3	+1.1	+1.1	+3.6		+2	+1.02	+1.00	+1.10	\$288	\$446
VTMB219 BVVB32	HBR	60	3370	1	44	9	56	99% 64	99% 63	99% 89	99% 4	99% 36	93%	98% 49	98% 27	98% 55	98% 24	98% 14	98% 16	95% 80	99% 99	99% 82	99% 56	98% 70	1	2
HIOG11	AYRVALE GENETIC G11 PV	+24	-4.2	-16.5	-5.7	+5.1	+66	+119	+163	+142	+19	+1.9	-5.6	+83	-0.3	-3.4	-2.1	-0.4	+2.3	-0.25	+35	+1.10	+1.04	+1.14	\$191	\$342
SEWD138	HBR	67%	86%	75%	98%	98%	97%	97%	97%	96%	95%	94%	59%	92%	89%	90%	91%	85%	91%	80%	87%	88%	88%	82%		
HIOE2		86	90	99	34	73	3	2	1	5	34	57	24	10	99	98	80	91	44	7	6	90	66	80	60	52
NBBN47	BALD BLAIR NELSON N47 PV	+25	+4.8		-5.5		+58			+159	+20	+1.1	-4.0	+89	+5.2	-1.1	-1.5	+0.8	+0.6	-0.29	+31	+1.06	+1.14	+1.16	\$185	\$372
HIOG18 NBBL83	HBR	50% 85	73% 32	58% 81	95% 37	94% 57	92% 17	92% 9	91% 2	87% 2	76% 26	88% 84	53% 68	86% 5	85% 63	85% 74	86% 71	78% 28	87% 88	78% 6	85% 12	85% 86	85% 84	81% 84	66	28
ECMM114	DANNADY REDKI EV M444 SV	+14	+4.1	+5.7	-10.6		+61	+100		+169		+4.5		+73	+3.0	-0.6	-3.4	+0.3	+1.9	-0.18	+25	+0.84	+0.76	+1.16	\$200	\$414
VTMB1	BANNABY BERKLEY M114 SV HBR	52%	74%						92%		+5 74%				+3.0 84%	-0.6 84%	-3.4 84%	+0.3 78%	+1.9 85%	-0.18 75%	+25 78%	+0.84 87%	+0.76 87%	83%	φ∠∪∪	φ+ι+
BBAZ107		97	38	22	2	57	9	22	6	1	99	2	1	30	86	62	93	60	56	11	27	48	8	84	50	7
	Breed Average EBVs	+47	+2.2	+2.7	-4.8	+4.1	+50	+90	+117	+101	+17	+2.1	-4.6	+66	+6.4	+0.0	-0.3	+0.5	+2.2	+0.19	+20	+0.85	+0.97	+1.03	+197	+339

Date:

February 28, 2023

Ident	Name																									
Sire			Calv	-Ease	Bi	rth		Frowth	<u> </u>	Mat	ernal	F	ert			Card	case			Feed	Temp	s	tructural		Selection	on Index
Dam	Reg.	ImmuneDEX IMD		Dtrs	GL	вw	200	400	600	MCW	Milk	ss	DC	cw	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L
ECMK63	BANNABY REALITY K63 PV	+74	+4.5	+3.6	-3.4	+3.8	+45	+78	+102	+104	+11	+1.8	-1.7	+52	+6.0	-0.5	-1.3	+0.6	+1.1	-0.16	+39	+0.58	+1.06	+1.18	\$137	\$270
NZE14647008839 ECMH45	HBR	68% 11	78% 35	66% 44	96% 72	96% 43	92% 74	91% 84	92% 81	86% 44	77% 91	81% 61	59% 97	89% 87	88% 53	87% 60	88% 68	83% 40	90% 78	82% 12	83% 3	85% 7	85% 70	81% 88	94	90
ECMN187	BANNABY REALITY N187 SV	+58	+8.6	+7.2	-7.2	+3.7	+48	+75	+91	+80	+9	+4.0	-7.2	+55	+8.2	+2.4	+3.1	+0.1	+3.4	+0.43	+8	+0.84	+1.16	+1.42	\$237	\$390
NZE14647008839 ECMF113	HBR	50% 32	73% 7	64% 10	94% 15	92% 41	90% 62	91% 88	91% 93	84% 83	73% 96	87% 4	60% 4	86% 82	86% 27	85% 8	86% 6	79% 72	88% 19	78% 80	82% 96	87% 48	87% 87	84% 99	13	16
VONG272	BANQUET GARRETT G272 SV	+57	-1.2	+4.6	-1.8	+6.3	+54	+99	+145	+147	+18	+4.7	-0.9	+56	+2.0	-2.6	-3.9	+0.3	+2.2	-0.79	+31	+0.54	+1.04	+1.10	\$125	\$281
VOND412 VONC368	HBR	64% 33	76% 79	59% 33	94% 89	96% 90	93% 32	94% 26	94% 7	88% 3	84% 40	90% 2	55% 99	88% 79	87% 92	87% 94	87% 95	79% 60	85% 47	78% 1	83% 11	87% 4	87% 66	81% 70	96	87
NUIF32	BONNY BROOKE FALCO F32 SV	+49	-8.2	-5.8	+0.0	+6.5	+53	+81	+112	+100	+19	-0.1	-3.5	+66	-1.7	+3.9	+4.0	-1.3	+2.2	-0.46	+6	+1.04	+0.92	+1.10	\$130	\$228
NGMC196	HBR	53%	63%	48%	90%	88%	89%		89%		71%	67%		83%	80%	81%	82%	72%	79%		77%	79%	79%	74%		
NUID96		46	97	98	97	92	38	77	61	50	34	99	80	51	99	2	3	99	47	2	97	84	36	70	95	97
HCAG013	BOONAROO GRAVITY G013 PV	+86	+5.7	+1.7	-5.8	+3.4	+49	+88		+106	+27	+3.8		+57	+4.9	-3.0	-3.0	+1.3	+2.7		+11	+0.44	+0.90	+1.08	\$217	\$375
VTMA217 VTMZ618	HBR	70% 2	88% 25	79% 64	98% 33	98% 34	97% 54	97% 56	97% 54	93% 40	94% 2	96% 6	70% 7	92% 78	91% 67	91% 97	91% 90	86% 8	90% 33	83% 2	93% 89	93% 1	94% 31	91% 64	31	26
NGME124	BOOROOMOOKA INSPIRED E124	+16	-5.7	+0.5	-6.6	+3.7	+46	+82	+108	+99	+14	+0.9	-7.8	+78	+3.6	-0.3	+3.3	-0.4	+2.5	+0.71	+24	+0.82	+0.84	+0.78	\$187	\$317
NAQA241	HBR	73%	96%	90%			98%				98%	98%		96%	95%	96%	96%	94%	95%		98%	97%	97%	96%		
NGMB325		95	94	74	22	41	71	75	71	53	76	89	2	17	81	55	5	91	38	95	30	43	19	2	65	70
NGMN418	BOOROOMOOKA JACKPOT N418	+24	+2.4	+4.6		+5.9	+62	+111			+15	+3.1	-7.1	+88	+10.9		+1.9	+0.8	+1.9		+26	+1.36	+1.08	+1.00	\$270	\$458
WWEL3 NGML471	HBR	50% 86	74% 54	61% 33	94% 5	95% 85	94% 8	94% 6	94% 8	88% 11	75% 71	89% 16	53% 4	85% 5	84% 9	84% 33	85% 14	78% 28	85% 56	75% 43	94% 24	90% 99	90% 74	84% 37	2	1
NGMK9	BOOROOMOOKA KINGY K9 PV	+25	-5.1	-6.8	-2.2	+6.5	+49	+85	+122		+19	+2.8	-7.1	+67	+8.8	+0.9	-0.4	+0.4	+4.5		+12	+0.70	+0.92	+0.86	\$203	\$338
BNAD145	HBR	68%	87%	78%			97%				94%	95%		92%	90%	90%	91%	88%	91%		97%	95%	95%	90%	<b>4</b>	****
NGMA281		85	92	99	86	92	56	66	40	26	36	23	4	49	22	27	51	54	6	86	86	20	36	7	47	56
NGMP96	BOOROOMOOKA PARAGON P96	+15	-0.2	+2.7	-7.3	+3.4	+59	+121	+158	+127	+29	+3.2	-8.5	+109	+12.1	-1.1	+0.2	+1.0	+3.1	+0.52	+39	+0.94	+1.02	+1.16	\$294	\$483
WWEL3	HBR	52%	80%	63%			96%				72%	93%		79%	80%	80%	80%	75%	79%		96%	88%	86%	84%		
NGMM566		96	73	54	14	34	13	2	2	13	1	14	1	1	5	74	40	18	24	87	3	69	61	84	1	1
BOWK2	BOWMAN AUSTRALIA K2 PV	+42 74%	+5.4 76%	+3.2 70%		+3.8 89%	+48 88%	+94 88%	+120		+19	+4.5		+68	+7.1 86%	+0.3	-1.3	+0.9	+1.2		+31	+0.82	+1.00 84%	+0.92 81%	\$223	\$386
VTME343 NAQZ31	HBR	58	27	48	18	43	61	40	88% 43	83% 56	78% 31	76% 2	65% 2	86% 46	39	86% 40	86% 68	81% 23	88% 75	79% 2	81% 11	84% 43	56	16	25	19
SRKK306	BOWMONT KING K306 PV	+31	-1.0	-9.0	-5.5	+4.6	+51	+81	+106	+88	+0	-0.2	-5.2	+69	+15.5	-0.5	-1.9	+1.7	+5.1	+0.58	+27	+0.50	+0.94	+0.80	\$253	\$370
NJWG279	HBR	69%	84%	72%	97%	97%	97%	97%	97%	93%	92%	95%	66%	92%	92%	91%	92%	89%	92%	84%	94%	89%	89%	86%		
TFAD58		76	78	99	37	62	46	78	74	72	99	99	33	43	1	60	77	3	3	90	21	3	41	3	5	30
AMQH64	BROOKLANA HI TOWER H64 PV	+86	-6.8	-1.9	+0.8	+5.6	+50	+99	+140	+129	+19	+1.5	-3.3	+81	+5.4	+1.6	+0.9	+0.5	+1.4	+0.65	+29	+0.66	+0.96	+1.06	\$155	\$290
VTME343 AMQF27	HBR	71%	75%	66%			89%				76%	76%		87%	86%	86%	87%	79%	88%		80%	84%	84%	78%	00	0.4
		2	95	88	99	81	49	25	10	11	37	72	84	12	61	16	27	47	70	93	16	14	46	58	88	84
QBUG49	BURENDA GEIGER COUNTER	+11 69%	+9.6 84%	+10.3 72%		+2.3 97%	+38	+78	+101		+18	+2.1	-8.5	+58	+2.7	+1.0	-1.4	+0.1	+4.0	+0.13	+33	+1.02	+1.22	+0.98	\$219	\$379
VTMB1 QBUE5	HBR	98	84% 4	1270	12	16	95% 94	96% 84	94% 82	94% 79	93% 43	94% 48	67% 1	91% 75	90% 89	90% 25	91% 70	85% 72	89% 11	83% 43	95% 9	85% 82	85% 93	81% 31	29	23
	Breed Average EBVs	+47	+2.2	+2.7	-4.8	+4.1	+50	+90	+117	+101	+17	+2.1	-4.6	+66	+6.4	+0.0	-0.3	+0.5	+2.2	+0.19	+20	+0.85	+0.97	+1.03	+197	+339

Date:

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Ident	Name																									
Sire		ImmuneDE	x Calv	-Ease	Bi	rth		Growth	<u> </u>	Mat	ernal	F	ert			Card	ase			Feed	Temp	<u> </u>	structura	<u> </u>	Selection	on Index
Dam	Reg.	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
WLHD19	CHERYLTON STEWIE D19 PV	+26	+2.6	+1.8	-5.1	+3.2	+45	+91	+113	+97	+20	+2.1	-5.4	+59	+3.5	-1.4	+1.5	-0.3	+3.6	+0.36	+16	+1.00	+1.02	+1.06	\$199	\$346
USA13058662 USA14311946	HBR	73% 84	94% 52	87% 63	98% 44	98% 30	98% 72	98% 48	98% 60	97% 57	97% 30	97% 48	74% 29	95% 71	94% 82	94% 79	95% 19	92% 89	94% 16	87% 73	96% 71	95% 79	95% 61	92% 58	51	50
GTNM3	CHILTERN PARK MARBLES M3	+18	+3.8	-3.9	-6.1	+2.5	+41	+76	+96	+59	+28	+3.3	-6.7	+56	+4.0	-0.1	-3.0	+0.1	+3.6	-0.11	+11	+0.52	+1.08	+1.16	\$191	\$302
NORE11 GTNJ4	HBR	81% 93	80% 41	70% 95	96% 28	96% 18	96% 86	96% 86	95% 88	90% 97	85% 1	90% 12	65% 8	90% 79	89% 77	85% 50	89% 90	82% 72	91% 16	83% 16	88% 90	93% 3	93% 74	89% 84	60	79
GTNP9	CHILTERN PARK PICASSO P9 PV	+37	+9.3	+6.4	-3.6	+1.5	+57	+103	+134	+99	+22	+3.4	-7.3	+98	+7.8	-0.6	+1.2	-0.4	+4.7	+0.51	+35	+0.80	+0.72	+0.84	\$277	\$455
HKFJ5 GTNK26	HBR	53% 67	76% 4	64% 16	97% 69	97% 8	92% 21	93% 17	92% 18	85% 53	72% 14	87% 11	54% 3	84% 2	82% 31	83% 62	83% 23	76% 91	85% 5	71% 86	75% 6	78% 39	80% 5	76% 5	1	1
THCL61	CLUDEN NEWRY ELEVATOR L61	+19	-3.3	-2.2	-3.9	+6.3	+63	+125	+159	+162	+20	+1.5	-3.7	+104	+9.7	-3.7	-2.0	+1.4	-1.1	+0.14	+40	+0.66	+0.92	+0.94	\$186	\$364
WDCE11	HBR	71%	76%	65%	93%	95%	93%	94%	94%	89%	83%	89%	60%	89%	88%	84%	89%	82%	90%	80%	91%	92%	92%	89%	·	
THCF92		92	88	90	64	90	6	1	2	1	26	72	76	1	15	99	79	6	99	44	3	14	36	20	65	34
QMUM13	CLUNES CROSSING DUSTY M13	+35	+0.9		-7.9		+66		+120		+13	+1.0		+70	+13.3		-3.9	+1.5	+2.0	+0.11	+11	+0.94	+0.86	+1.00	\$301	\$440
USA16295688 QMUG1	HBR	50% 70	92% 65	80% 49	99% 10	99% 76	98% 3	98% 19	98% 43	97% 88	94% 80	98% 87	67% 2	94% 38	93% 3	93% 93	93% 95	88% 5	93% 53	84% 40	97% 91	96% 69	96% 23	94% 37	1	2
NBHK330	CLUME DANCE KALUHA K220 PV	+3	-1.4	-9.6	-5.9		+53			+104				+92	+10.2		-0.5	+1.2	+3.1	+0.30	+3	+0.76	+0.98	+1.16	\$242	\$379
NJWG279	CLUNIE RANGE KALUHA K330 PV HBR	71%	81%		97%				96%	91%	85%			92%	90%	90%	91%	88%	92%	+0.30 84%	93%	+0.76 87%	+0.96 88%	85%	<b>Φ</b> 242	φ3/9
NBHH381	TIBIX	99	80	99	31	71	37	39	36	43	43	87	4	3	12	29	53	11	24	66	99	31	51	84	10	23
NBHL348	CLUNIE RANGE LEGEND L348 PV	+17	-6.2	+4.2	-8.1	+6.1	+59	+103	+128	+158	+1	+2.9	-6.6	+63	+0.7	+3.6	+1.1	-0.7	+2.4	+0.08	+25	+0.50	+0.80	+1.28	\$166	\$343
NZE14647008839	HBR	68%	93%		99%		98%		98%	97%	96%	98%		94%	92%	93%	93%	90%	93%	83%	97%	97%	97%	95%		
AHWJ81		94	94	37	9	88	14	16	27	2	99	21	9	59	97	2	24	96	41	36	29	3	13	97	82	51
WDCH249	COONAMBLE HECTOR H249 SV	+33	-0.3	-0.3	-8.7				+100		+5	+1.2		+47	+11.0		+4.2	+0.9	+0.0	-0.50	+42		+0.50	+0.82	\$185	\$307
USA14885809 WDCE9	HBR	70% 73	94% 73	82% 80	99% 6	99% 57	98% 74	98% 81	98% 83	97% 75	97% 99	98% 82	73% 62	95% 94	94% 9	94% 3	94%	92% 23	94% 96	85% 2	98% 2	96% 1	96% 1	93% 4	67	76
WDCJ266	COONAMBLE JUNIOR J266 PV	+71	-8.7	-6.2	-0.5					+129		+2.3			+10.8		-5.0	+1.6	+2.3	-0.33	+9	+0.92	+0.78	+1.06	\$197	\$332
BNAD145	HBR	76%	88%						97%	94%	95%			92%	91%	91%	91%	88%	91%	83%	93%	94%	94%	90%	Ψισι	ΨΟΟΣ
WHHA61		14	97	98	96	83	15	15	8	11	53	40	36	1	9	99	99	4	44	5	94	65	11	58	54	60
WDCK314	COONAMBLE KEVIN K314 PV	+99	-1.8	+2.2	-2.1	+5.2	+55	+104	+135	+115	+24	+4.3	-6.2	+90	+6.6	+0.2	+0.9	+0.2	+1.4	+0.29	+24	+0.48	+1.08	+1.24	\$208	\$365
NAQA241 WDCD94	HBR	65% 1	83% 81	71% 59	95% 87	97% 74	96% 26	95% 15	96% 16	91% 26	90% 7	92% 3	65% 13	90% 4	89% 45	89% 43	89% 27	85% 66	90% 70	80% 64	81% 30	85% 2	85% 74	82% 95	41	34
BHRE614	DUNOON EVIDENT E614 PV	+19	-11.7	-18.0	+0.0	+6.0	+52	+90	+111	+109	+14	+3.6	-5.6	+58	+11.2	-2.7	-1.4	+1.7	+1.7	+0.41	+43	+0.90	+1.08	+0.88	\$167	\$269
VTMB219 BHRB681	HBR	70% 92	97% 99	91% 99	99% 97	99% 87	99% 42	99% 51	99% 64	98% 35	98% 77	98% 8	83% 24	97% 75	96% 8	97% 95	97% 70	95% 3	96% 62	90% 78	98% 1	96% 61	96% 74	94% 9	81	90
USA16198796	EF COMPLEMENT 8088 PV	+15	+5.5	+9.2	-5.2	+2.9	+53	+98	+130	+96	+22	+1.3	-7.6	+77	+7.6	+1.3	+1.9	+0.4	+1.8	+0.55	+22	+0.96	+1.30	+1.14	\$263	\$432
USA14686137 USA15452880	HBR	85% 96	98% 26	92% 3	99% 42	99% 25	99% 37	99% 29	99% 24	99% 59	99% 16	99% 79	90%	98% 21	97% 33	98% 20	97% 14	97% 54	97% 59	92% 89	99% 41	99% 72	99% 97	98% 80	3	3
WWEQ15	ESSLEMONT GARTH Q15 PV	+36	-3.6		-9.8		+62					+2.5		+69	+8.1	-3.6	-3.7	+0.8	+3.1	-0.39	+40	+0.96	+1.16	+1.04	\$233	\$397
VTMG67	HBR	52%	70%						80%	77%	69%				67%	69%	69%	64%	70%	62%	82%	69%	69%	68%	7_00	<b>400</b> .
WWEN17		68	89	47	3	87	8	11	6	9	1	33	8	41	28	99	95	28	24	3	2	72	87	51	16	13
	Breed Average EBVs	+47	+2.2	+2.7	-4.8	+4.1	+50	+90	+117	+101	+17	+2.1	-4.6	+66	+6.4	+0.0	-0.3	+0.5	+2.2	+0.19	+20	+0.85	+0.97	+1.03	+197	+339

Date:

February 28, 2023

Ident	Name																									
Simo.				-Ease	Bii	rth	(	rowth	ı	Mat	ernal	F	ert			Card	case			Feed	Temp	8	tructura	l	Selection	on Index
Sire Dam	Reg.	ImmuneDEX IMD	Dir	Dtrs	GL	BW	200	400	600	мсพ	Milk	ss	DC	cw	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L
WWEL3	ESSLEMONT LOTTO L3 PV	+8	-5.0	-2.7	-5.7	+4.4	+59	+109	+139	+135	+20	+3.5	-9.3	+90	+14.5	+0.5	+1.3	+1.3	+3.8	+0.29	+15	+1.14	+1.02	+1.14	\$282	\$460
HIOG18 WWEJ8	HBR	77% 99	95% 92	87% 91	99% 34	99% 57	98% 13	99% 9	99% 11	98% 8	98% 26	98% 9	77% 1	96% 4	95% 2	95% 36	96% 21	94% 8	96% 13	90% 64	98% 74	98% 93	98% 61	97% 80	1	1
WWEQ24	ESSLEMONT QUOKKA Q24 PV	+53	+5.4	+0.7	-2.8	+2.5	+45	+83	+106	+65	+23	+4.3	-6.4	+63	+20.7	+1.0	+0.4	+2.4	+2.7	+0.99	+34	+0.80	+0.94	+0.92	\$281	\$415
WWEN12 WWEN7	HBR	52% 40	67% 27	52% 73	93% 80	93% 18	89% 75	85% 72	83% 73	79% 94	65% 11	80% 3	45% 11	73% 60	71% 1	73% 25	73% 36	67% 1	73% 33	58% 99	84% 7	60% 39	60% 41	60% 16	1	6
USA16295688	G A R PROPHET SV	+43	+3.2	+4.3	-1.0	+3.6	+66	+106	+132	+84	+24	+0.7	-5.9	+70	+3.5	-0.6	-1.2	-0.8	+4.7	+0.62	+27	+1.00	+0.80	+0.90	\$271	\$417
USA13009379 USA15129456	HBR	88% 56	98% 47	92% 36	99% 94	99% 39	99% 3	99% 11	99% 20	99% 77	98% 6	99% 92	88% 18	98% 38	97% 82	97% 62	97% 66	96% 97	97% 5	93% 92	99% 20	99% 79	99% 13	98% 12	2	6
USA17328461	G A R SURE FIRE SV	+96	+7.7	+3.3	-3.3	+2.4	+51	+91	+111	+77	+18	+4.1	-6.8	+65	+8.0	-0.4	-0.3	+0.8	+3.2	-0.22	+28	+1.14	+0.92	+0.64	\$257	\$409
USA16205036 USA16431932	HBR	79% 1	94% 11	82% 47	99% 73	99% 17	98% 46	98% 48	98% 64	97% 85	98% 43	98% 4	77% 7	96% 54	95% 29	95% 58	95% 49	94% 28	95% 22	87% 9	95% 18	99% 93	99% 36	91% 1	4	8
ASRM9	GATES MENTOR M9 SV	+40	+2.2	+4.3	-3.1	+6.2	+63	+112	+148	+132	+19	+4.1	-7.0	+88	+11.3	-4.9	-5.8	+1.9	+3.1	+0.42	+9	+1.00	+1.14	+1.16	\$273	\$457
HIOE7 ASRK93	HBR	54% 62	75% 55	64% 36	95% 76	93% 89	90% 7	90% 6	90% 5	84% 9	80% 31	81% 4	58% 5	85% 6	82% 7	82% 99	83% 99	75% 2	85% 24	76% 79	79% 94	81% 79	82% 84	78% 84	1	1
QBGH221	GLENOCH HINMAN H221 SV	+69	+4.6	-3.0	-3.4	+3.1	+54	+92	+126	+114	+21	+1.1	-3.6	+85	+6.3	-2.5	-5.1	+0.6	+5.3	-0.41	+16	+0.90	+0.80	+1.04	\$209	\$354
BNAD145 QBGD80	HBR	70% 16	82% 34	71% 92	97% 72	97% 28	96% 33	96% 46	96% 30	90% 27	91% 20	95% 84	67% 78	91% 8	90% 49	90% 93	90% 99	86% 40	91% 3	82% 3	82% 71	88% 61	88% 13	84% 51	40	43
DKKM41	HARDHAT H708 MAIMURU J51	+86	+3.8	+3.9	-2.4	+2.3	+45	+89	+117	+96	+11	+1.1	-3.4	+62	+2.8	+1.0	-2.5	-0.4	+6.7	+0.14	+23	+1.02	+1.00	+1.12	\$203	\$345
NORH708 DKKJ51	APR	50% 2	69% 41	55% 41	94% 84	92% 16	89% 73	89% 55	90% 51	83% 58	70% 93	77% 84	56% 82	87% 63	87% 88	86% 25	87% 85	78% 91	89% 1	81% 44	84% 34	88% 82	88% 56	85% 75	47	50
NHZF1023	HAZELDEAN F1023 SV	+42	+5.6	+2.5	-3.4	+3.1	+41	+77	+90	+72	+12	+3.7	-6.4	+51	+9.6	+3.2	+0.0	+0.0	+6.3	+1.31	+6	+0.54	+1.00	+1.04	\$233	\$371
VTMB1 NHZB723	APR	68% 58	90% 25	77% 56	98% 72	98% 28	98% 86	98% 84	97% 93	94% 90	92% 87	97% 7	73% 11	94% 89	92% 16	92% 3	93% 43	87% 77	93% 1	86% 99	96% 97	96% 4	96% 56	93% 51	16	29
NHZJ140	HAZELDEAN JAIPUR J140 SV	+86	+8.8	+8.1	-5.0	+1.8	+39	+74	+104	+82	+28	+3.3	-7.3	+70	+5.2	-1.0	-1.4	+1.0	+2.7	+1.13	+54	+0.28	+0.82	+1.00	\$209	\$359
NAQA241 NHZC33	HBR	73% 2	93% 6	79% 6	98% 46	98% 10	98% 91	98% 90	98% 77	96% 80	96% 1	98% 12	80% 3	95% 38	93% 63	94% 72	94% 70	91% 18	94% 33	87% 99	98% 1	97% 1	97% 16	95% 37	40	38
NHZK416	HAZELDEAN KATZEN K416 SV	+19	+9.6	+4.7	-11.5	+2.2	+56	+95	+124	+111	+18	+3.7	-8.3	+74	+0.8	+4.4	+2.8	-0.7	+0.8	+0.29	+53	+1.04	+1.02	+1.06	\$215	\$395
NORE11 NHZH342	APR	73% 92	88% 4	76% 32	98% 1	98% 14	97% 25	97% 38	97% 36	94% 32	92% 44	97% 7	71% 1	93% 27	91% 97	89% 1	92% 7	86% 96	93% 84	86% 64	96% 1	95% 84	95% 61	92% 58	33	14
NHZM586	HAZELDEAN M586 SV	+71	+8.8	+9.7	-9.3	+2.2	+52	+90	+121	+98	+17	+4.3	-9.3	+75	+7.5	+0.5	+0.1	-0.2	+5.6	+0.93	+52	+0.52	+0.96	+1.12	\$279	\$462
NHZJ140 NHZH356	APR	51% 14	83% 6	64% 2	98% 4	98% 14	96% 43	96% 52	95% 42	90% 55	77% 48	95% 3	57% 1	91% 25	88% 34	88% 36	89% 42	80% 85	90% 2	81% 99	89% 1	91% 3	91% 46	87% 75	1	1
NHZQ319	HAZELDEAN Q319 PV	+70	+6.1	+9.1	-10.1	+2.6	+60	+113	+151	+139	+20	+3.4	-9.8	+93	+4.2	+1.6	+0.3	-0.9	+5.1	+0.21	+31	+0.86	+1.12	+1.08	\$278	\$494
NHZM586 NHZL1175	APR	51% 15	68% 21	49% 3	96% 2	95% 20	81% 12	79% 5	80% 4	77% 6	64% 28	77% 11	41% 1	70% 3	65% 75	67% 16	67% 38	59% 98	69% 3	59% 54	55% 13	69% 52	64% 81	60% 64	1	1
CJMM8	HIGH SPA M8 SV	+5	+2.4	+3.2	-7.0	+3.8	+50	+88	+123	+106	+14	+1.9	-4.0	+73	+5.0	-2.8	-2.9	+1.1	+0.4	+0.33	+18	+0.88	+1.10	+0.88	\$172	\$313
USA15354674 CJMF9	APR	69% 99	71% 54		94% 17		90% 52	88% 59	88% 37	82% 41	75% 78	78% 57		86% 29	84% 66	80% 95	85% 89	78% 14	87% 91		79% 59	81% 57	81% 78	77% 9	78	73
	Breed Average EBVs	+47	+2.2		-4.8	+4.1	+50	+90	+117		+17	+2.1	-4.6	+66	+6.4	+0.0	-0.3	+0.5	+2.2		+20	+0.85	+0.97	+1.03	+197	+339

Date:

February 28, 2023

Ident	Name																									
Cina			Calv	-Ease	Bi	rth	c	rowth	1	Mate	ernal	F	ert			Card	case			Feed	Temp	S	tructural		Selection	n Index
Sire Dam	Reg.	ImmuneDEX IMD		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
BCHE11	J & C EVIDENCE E11 sv	+13	-15.6	-12.1	-6.2	+9.1	+59	+107	+124	+115	+9	+2.6	-5.1	+94	+8.2	-3.7	-0.9	+1.5	+0.1	+0.59	+17	+1.10	+0.78	+1.06	\$166	\$271
BCHA10 BCHA2	HBR	62% 97	81% 99	68% 99	95% 27	97% 99	95% 13	95% 11	94% 36	90% 27	88% 96	89% 29	59% 36	90% 2	88% 27	88% 99	89% 61	82% 5	90% 95	79% 91	85% 65	81% 90	81% 11	73% 58	82	90
NKLL76	KANSAS JUDD L76 SV	+28	+0.2	+2.1	-3.1	+6.7	+57	+103	+140	+120	+20	+3.0	-3.7	+87	+6.6	-2.4	-0.2	+0.9	+2.9	-0.11	+35	+1.24	+1.12	+0.88	\$223	\$377
NKLJ82 NKLG225	HBR	68% 81	64% 70	46% 60	91% 76	88% 93	86% 20	86% 16	88% 11	80% 20	63% 23	70% 18	46% 76	87% 6	87% 45	86% 93	87% 47	83% 23	89% 29	79% 16	78% 6	84% 98	84% 81	78% 9	24	25
KILK18	KILLAIN ALASKA K18 PV	+26	-9.2	-5.7	+0.0	+7.1	+65	+122	+165	+176	+15	+3.6	-2.4	+90	+5.2	-2.6	-4.4	+0.9	-1.3	-0.75	+24	+1.16	+0.88	+1.00	\$117	\$278
USA16417285 USA15107929	HBR	53% 84	70% 98	56% 98	88% 97	86% 96	85% 4	85% 2	86% 1	81% 1	76% 70	76% 8	47% 94	83% 4	83% 63	82% 94	83% 97	80% 23	85% 99	72% 1	68% 29	76% 95	77% 27	66% 37	97	88
BLAP130	KNOWLA PACKER P130 PV	+16	+1.2	-0.5	-3.5	+5.2	+58	+103	+142	+122	+10	+1.2	-5.5	+86	+8.4	-0.2	-0.6	+0.7	+3.1	+0.28	+22	+0.82	+1.24	+1.06	\$242	\$405
SRKK306	HBR	51%	67%	54%	91%		84%			77%	69%	81%		72%	69%	71%	71%	67%	72%	61%	75%	68%	68%	66%		
BLAK113		95	63	81	70	74	17	17	9	18	95	82	26	7	25	52	55	34	24	63	41	43	94	58	10	10
BLAP91	KNOWLA PEPPER P91 PV	+22	+6.1	+4.2	-6.2	+3.8	+60			+157		+1.3		+82	+8.3		+1.8	+0.6	+2.6		-2	+1.02	+1.08	+0.82	\$277	\$498
HIOG18 BLAL06	HBR	53% 89	72% 21	60% 37	94% 27	93% 43	90% 11	87% 3	88% 4	83% 2	72% 89	86% 79	55% 1	77% 12	74% 26	76% 9	76% 15	72% 40	76% 36	64% 80	84% 99	71% 82	74% 74	71% 4	1	1
VLYN131	LAWSONS CHARLIE N131 SV	+56	-4.9	-3.2	-4.4	+5.7	+74	+134	+166	+135	+25	+3.5	-5.3	+80	+6.1	-2.0	-2.4	+0.2	+1.2		+30	+0.88	+0.78	+0.88	\$238	\$404
USA16295688	HBR	56%	75%	65%	95%	96%	93%	92%	89%	84%	72%	86%	56%	85%	84%	84%	85%	77%	86%	76%	90%	91%	90%	86%		
VLYL710		35	92	93	56	83	1	1	1	8	6	9	31	14	52	88	84	66	75	68	13	57	11	9	12	10
VLYL483	LAWSONS LINKEDIN L483 SV	+55	+5.7	-9.2	-1.2	+3.8	+58			+140	+28	+4.1		+106	+9.8	-0.4	+2.4	+0.3	+1.5	-0.29	+22	+0.98	+0.78	+0.86	\$211	\$385
HKFJ5 VLYH221	HBR	67% 36	84% 25	73% 99	98% 93	98% 43	97% 17	97% 9	96% 3	94% 5	93% 2	94% 4	65% 44	91% 1	88% 15	86% 58	90% 10	83% 60	90% 67	79% 6	87% 40	84% 76	84% 11	80% 7	38	19
VLYE398	LAWSONS NADAL E398 SV	+71	-7.7	-3.9	-1.6	+5.9	+56	+93		+132	<u>-</u> 8	+1.2		+66	+12.7	-0.3	-1 4	+1.7	+0.6		+1	+0.80	+0.80	+0.92	\$186	\$329
USA15464043	HBR	64%	88%	76%	98%		97%			95%	96%	95%		93%	91%	91%	91%	87%	91%	82%	84%	83%	83%	77%	ψ100	ΨΟΣΟ
VLYB887	11510	14	96	95	91	85	22	42	68	10	99	82	18	50	4	55	70	3	88	72	99	39	13	16	66	62
VLYP316	LAWSONS PROPHET P316 PV	+16	+4.1	+3.8	-1.7	+3.6	+59	+93	+114	+72	+18	+1.0	-5.4	+70	+10.9	-3.5	-3.8	+1.4	+3.5	+0.29	+29	+0.66	+0.68	+0.84	\$276	\$408
USA16295688	HBR	58%	72%	60%	90%		88%		83%	79%	69%	73%		74%	72%	74%	74%	70%	74%	63%	72%	80%	80%	74%		•
VLYM527		95	38	42	90	39	15	41	58	90	44	87	29	39	9	98	95	6	17	64	15	14	3	5	1	9
NZE14647010	MATAURI OUTLIER F031 SV	+70 65%	-3.0 95%	+2.6 86%	-4.6 98%	+6.7 99%	+54 98%	+101 98%			+16 98%	+2.2 98%		+71	+0.1 95%	+3.1 96%	+1.8 96%	-0.7 94%	+1.0		+15	+0.78	+1.18	+1.30 89%	\$135	\$293
NZE14647008839 NZE14647108860	HBR	15	86	55	52	93	33	20	13	96%	96% 56	96% 44	84% 82	96% 37	95% 98	96% 4	15	94%	95% 80	88% 35	92% 76	92% 35	92% 89	98	94	83
NMMF159	MILLAH MURRAH DOC F159 PV	+55	-6.8	+3.4	-6.0	+6.8	+58	+107	+148	+131	+29	+2.4	-5.4	+96	+4.9	+1.2	+2.0	+0.3	+0.3	-0.17	+17	+0.98	+1.12	+1.08	\$187	\$337
NMMD78	HBR	64%	89%	77%	98%	97%	97%	97%	96%	95%	95%	96%	69%	93%	91%	92%	92%	88%	92%	82%	94%	88%	88%	84%		
NHZY275		36	95	46	30	94	17	10	5	10	1	36	29	2	67	22	13	60	92	12	63	76	81	64	65	56
NMMG18	MILLAH MURRAH HIGHLANDER	+16	+0.0	-4.3	-3.7	+4.5	+49	+88	+110	+85	+22	+4.5	-3.5	+76	+10.6	-3.3	-1.8	+2.0	-0.1	+0.05	+11	+0.74	+0.90	+1.02	\$183	\$300
NZE12170004408 NMMD85	HBR	62% 95	82% 72	70% 95	97% 67	95% 60	93% 54	93% 58	93% 67	90% 76	84% 16	89% 2	63% 80	90% 22	89% 10	89% 98	90% 76	83% 1	91% 96	82% 32	90% 89	84% 27	84% 31	79% 44	68	80
NMMK35	MILLAH MURRAH KINGDOM K35	+37	-13.5		-2.6	+9.0	+55	+99	+138			+0.9		+63	+7.6	+0.0	+0.4	+1.0	-0.6	-0.69	+25	+0.82	+1.26	+1.18	\$140	\$270
NZE469	HBR	73%	95%	86%	99%		98%		98%		98%	98%		96%	94%	95%	95%	92%	94%	87%	97%	96%	96%	94%	ΨΙΨΟ	Ψ210
NMMG41		67	99	99	82	99	28	25	13	4	93	89	20	60	33	48	36	18	99	1	26	43	95	88	93	90
	Breed Average EBVs	+47	+2.2	+2.7	-4.8	+4.1	+50	+90	+117	+101	+17	+2.1	-4.6	+66	+6.4	+0.0	-0.3	+0.5	+2.2	+0.19	+20	+0.85	+0.97	+1.03	+197	+339

Date:

February 28, 2023

Ident	Name																									
Sire		I DEV	Calv	-Ease	Bi	rth		Growth	<u> </u>	Mat	ernal	F	ert			Card	case			Feed	Temp	s	tructural	<u> </u>	Selection	n Index
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
NMMK42	MILLAH MURRAH KLOONEY K42	+4	+5.8								+24	+2.1	-6.7	+64	+5.9	-1.3	-3.5	+1.1	+2.5	+0.17	+19	+0.84	+0.92	+1.04	\$215	\$362
NGMT30 NMMH4	HBR	75% 99	95% 24	86% 51	99% 21	99% 83	98% 66	99% 63	98% 71	97% 66	98% 8	98% 48	78% 8	96% 57	94% 54	95% 78	95% 93	93% 14	95% 38	87% 48	98% 55	96% 48	97% 36	94% 51	33	36
NMML133	MILLAH MURRAH LOCH UP L133	+9	+4.6	+2.4	-6.0	+5.0	+58	+99	+132	+106	+26	+1.9	-1.7	+79	+1.9	-2.3	-4.2	-0.5	+1.7	-0.27	+35	+0.70	+1.06	+1.14	\$158	\$296
USA17091363 NMMH49	HBR	73% 99	94% 34	84% 57	99% 30	99% 71	98% 16	98% 24	98% 20	98% 40	97% 3	98% 57	75% 97	95% 17	94% 93	95% 92	95% 97	93% 93	94% 62	87% 7	98% 6	97% 20	97% 70	95% 80	86	81
NJWH194	MILWILLAH ELEVATOR H194 SV	+49	-8.8	-9.1	-0.8	+8.0				+147		+1.3			+3.7	-2.3	+0.9	+0.9	-1.3	-0.37	+43	+0.22	+0.44	+0.86	\$75	\$200
WDCE11 VTMX64	HBR	61% 46	74% 97	65% 99	92% 95	92% 99	90% 67	90% 36	90% 36	85% 3	80% 32	84% 79	61% 97	86% 91	85% 80	85% 92	86% 27	80% 23	87% 99	77% 4	79% 2	87% 1	86% 1	80% 7	99	99
NJWH283	MILWILLAH ELSOM H283 PV	+32	+1.1	-2.9	-2.4						+21	+2.0			+10.8		-2.7	+1.7	+1.2		+30	+0.78	+0.84	+1.08	\$157	\$274
NJWF189 NJWE51	HBR	67%	79%	65%							91%				89%	89%	90%	85%	91%	82%	84%	89%	89%	85%	00	00
NJWE158	MILWILLAH LAD E158 SV	75 +40	-2.5	-7.0	-7.7	36 +8.1	79 +43	81 +82	56 +108	57 +111	22 +6	52 +1.9	96 -5.5	35 +45	9 +9.2	91 -1.0	-4.5	+1.3	75 +2.6	77 +0.18	14 +13	35 +0.80	19 +0.84	+0.74	86 \$161	
NZEE230	HBR	57%	81%	72%	95%	97%		96%		92%	95%		62%	91%	90%	90%	90%	85%	91%	80%	86%	79%	79%	72%	•	·
VTMX114	MUDDEDLUCE DI AGY DEADI	62	85	99	11	99	80	75	70	32	99	57	26	95	19	72	98	8	36	50	84	39	19	1 .4.40	84	84
<b>CSWP036</b> USA17236055	MURDEDUKE BLACK PEARL  HBR	+19 53%	+2.0 73%						+126 89%		+19 72%	+3.2 87%		+54 87%	+2.9 87%	-0.2 86%	-1.5 87%	-0.7 79%	+5.9 89%		+13 93%	+0.82 92%	+1.16 92%	+1.18 88%	\$193	\$344
CSWL123		92	57	66	6	78	63	54	31	30	38	14	39	83	87	52	71	96	1	91	84	43	87	88	58	51
CSWH211	MURDEDUKE HUSSAR H211 PV	+7 65%	+1.3 80%	+3.3 70%							+13	+3.8		+88	+1.4	-1.8	-5.0	+0.4	+0.0		+31	+0.54	+0.84	+1.02	\$160	\$359
VTME343 CSWE175	HBR	99	63	47	4	91	7	95% 1	95% 1	91% 1	89% 82	93% 6	65% 68	90% 5	89% 95	89% 86	90% 99	84% 54	91% 96	82% 1	95% 12	95% 4	95% 19	93% 44	85	38
CSWK428	MURDEDUKE KICKING K428 PV	+31	+8.6	+8.3		+1.8	+49		+120	+93	+24	+3.6	-5.3	+66	+1.5	+0.1	-2.2	+0.3	+0.5	-0.09	+45	+0.92	+1.02	+1.20	\$186	\$344
VTME343 CSWE175	HBR	74% 76	84% 7	71% 5	98% 9	98% 10	97% 57	97% 38	96% 45	93% 63	91% 9	97% 8	66% 31	91% 50	91% 94	87% 45	91% 81	85% 60	92% 90	84% 18	97% 1	97% 65	97% 61	95% 91	66	51
NURG20	MURRAY EL GRANDO G20 SV	+25	-12.4	+2.2	-7.0	+7.8	+68	+114	+158	+143	+13	+3.5	-5.1	+93	+15.9	-5.7	-7.0	+2.0	+2.4	-0.44	+20	+0.88	+0.76	+0.88	\$221	\$367
USA13058662 VTMD113	HBR	70% 85	87% 99	77% 59	97% 17	97% 98	96% 2	96% 4	96% 2	94% 4	93% 85	92% 9	72% 36	92% 3	90%	90% 99	91% 99	86%	91% 41	82% 2	94% 47	94% 57	93% 8	91% 9	26	32
NURM208	MURRAY GENESIS M208 PV	+40	+2.9	+5.4	-6.5				2 +130			+3.7	-6.3		+15.6		-2.8	+1.8	+0.9	+1.22	+6	+0.98	+1.06	+0.68	\$242	\$409
SMPG357	HBR	73%	74%	62%							81%				86%	83%	86%	80%	87%	78%	86%	90%	90%	87%		
NURK45	MURRAY KODAK N70 PV	62 +56	49 +4.3	25 +6.3	-7.2	74 +4.4	35 +60	20 +101	23 ±132	35 +129	38 +13	7 +5.1	-6.6	7 +79	+10.0	-1.3	-1.8	+0.8	82 +4.0	99 -0.37	97 +27	76 +0.98	70 +0.94	+0.92	10 \$256	8 \$442
NORK522	HBR	53%	74%	57%							72%				86%	85%	87%	78%	88%	80%	86%	89%	89%	85%	Ψ200	ΨττΣ
NURJ53		35	37	17	15	57	12	21	21	12	83	1	9	17	13	78	76	28	11	4	21	76	41	16	4	2
NURM204 USA16956101	MURRAY PROCEED M204 PV HBR	+46 77%	-8.7 76%	+6.8 63%			+62 93%				+20 77%	+3.3 85%		+90 89%	+13.8 88%	-4.6 84%	-4.8 89%	+0.6 83%	+6.8 90%	+0.12 81%	+14 91%	+0.98 89%	+0.78 90%	+0.92 86%	\$238	\$383
NURJ43	וטוז	51	97	13	49	60	7	6	9	16	27	12	71	4	2	99	98	40	1	41	78	76	11	16	12	21
NURP54	MURRAY TWINHEARTS P54 PV	+16	-0.1	+3.4	-6.6							+2.4				-1.8	-3.8	+0.6	+3.0	+0.25	+17	+0.86	+1.22	+0.90	\$250	\$445
USA16350631 NURM13	HBR	51% 95	68% 72	56% 46	92% 22	89% 97	87% 1	86% 1	85% 1	81% 1	69% 3	77% 36	50% 50	83% 1	82% 25	82% 86	83% 95	75% 40	85% 26	74% 59	81% 68	87% 52	87% 93	82% 12	6	2
	Breed Average EBVs	+47	+2.2	+2.7	-4.8	+4.1	+50	+90	+117	+101	+17	+2.1	-4.6	+66	+6.4	+0.0	-0.3	+0.5	+2.2	+0.19	+20	+0.85	+0.97	+1.03	+197	+339

Date:

February 28, 2023

Ident	Name																									
Si			Calv	-Ease	Bi	rth	(	Growth	1	Mat	ernal	F	ert			Card	case			Feed	Temp	S	tructura	I	Selection	on Index
Sire Dam	Reg.	ImmuneDEX IMD		Dtrs	GL	вw	200	400	600	MCW	Milk	SS	DC	cw	EMA	Rib	P8	RBY	IMF	NFI-F	Doc	Claw	Angle	Leg	\$A	\$A-L
SFNL21	NAMPARA LIBERTY L21 SV	+59	-4.7	-1.0	-6.4	+8.9	+67	+112	+152	+168	+19	+3.1	-1.5	+84	+7.2	-2.1	-0.9	+1.7	-2.6	-0.59	+17	+0.86	+0.86	+1.02	\$142	\$305
NZE10322010609 SFNH65	HBR	70% 30	84% 91	67% 84	98% 24	98% 99	96% 3	97% 6	97% 4	93% 1	91% 34	96% 16	57% 97	92% 9	90% 38	86% 89	91% 61	84% 3	92% 99	83% 1	93% 66	91% 52	92% 23	87% 44	92	77
SKOJ6	NEWLYN PARK EMPEROR J6 PV	+11	-10.4	-5.5	-8.0	+8.3	+69	+116	+153	+160	+8	+2.0	-5.1	+87	+7.4	-1.1	-1.5	+1.2	+0.1	-0.57	+27	+1.10	+0.76	+0.80	\$188	\$345
VTME343 NZCE115	HBR	64% 98	75% 99	66% 97	92% 9	90% 99	88% 2	88% 3	89% 3	85% 1	77% 98	78% 52	61% 36	85% 6	84% 35	84% 74	85% 71	78% 11	86% 95	76% 1	78% 20	85% 90	85% 8	80% 3	64	50
NZE21095018	NGAPUTAHI P206 <sup>SV</sup>	+81	+10.7	7 +7.3	-1.5	-0.2	+41	+83	+97	+67	+27	+2.8	-6.3	+60	+7.5	+0.7	+0.0	+1.0	+3.5	+0.60	+21	+0.94	+1.08	+1.12	\$240	\$384
HIOE7 NZE21095112H49	HBR	55% 5	74% 2	64% 10	92% 91	95% 2	92% 87	90% 73	85% 87	82% 93	72% 2	87% 23	59% 12	78% 68	77% 34	78% 31	78% 43	73% 18	76% 17	67% 91	82% 43	69% 69	69% 74	68% 75	11	20
USA16981588	PA FULL POWER 1208 PV	+63	-6.2	-5.2	-5.6	+3.7	+52	+98	+119	+81	+15	+1.9	-3.4	+68	+12.7	-1.5	+0.6	+0.8	+3.4	+0.80	+25	+1.26	+0.98	+0.70	\$221	\$328
USA16381311 USA16408070	HBR	76% 24	93% 94	81% 97	99% 36	98% 41	98% 40	98% 29	98% 46	97% 82	97% 72	98% 57	70% 82	95% 45	94% 4	93% 81	94% 32	91% 28	94% 19	85% 98	98% 28	98% 98	97% 51	90% 1	27	63
USA17585042	PA RANCH HOUSE 349 PV	+11	+6.7	+3.2		+3.9	+50	+89	+113		+26	+0.1	-2.5	+61	+6.0	-0.3	+2.0	+0.4	+1.8		-4	+1.50	+1.42	+0.94	\$199	\$336
USA16651533 USA17193464	HBR	76% 98	86% 17	67% 48	98% 31	98% 46	97% 49				94%	96% 98		93%	92% 53	92% 55	92% 13	89% 54	93% 59	83% 95	86% 99	93% 99	93%	89% 20	52	58
HKFE27	DARINGA IRON ORE E27 PV	+88	+8.3		-7.9		+36	+70	+94	+89	+16	+2.1		+66	+8.4	+1.0	+1.5	+1.5	+1.7	+0.41	+40	+0.86	+0.96	+1.00	\$199	\$346
VTMA149	PARINGA IRON ORE E27 PV HBR	66%	+6.3 81%			96%	94%				91%	91%		90%	+6.4 89%	89%	90%	83%	90%	82%	85%	+0.66 84%	+0.96 84%	79%	<b>\$199</b>	φ340
FAFC1	TIBIX	2	8	64	10	10	95	94	90	70	60	48	6	50	25	25	19	5	62	78	3	52	46	37	51	49
SMPG357	PATHFINDER GENESIS G357 PV	+41	+2.4	+4.7	-7.8	+6.7	+61	+108	+147	+140	+26	+4.3	-5.3	+96	+14.0	+0.9	-1.4	+1.4	+0.2	+0.63	+29	+0.88	+1.04	+0.76	\$224	\$407
VTMB1 SMPD245	HBR	65% 60	96%	86% 32	99% 11	99% 93	99% 9	99% 9	99% 6	98% 6	98% 3	98% 3		97% 2	95% 2	96% 27	96% 70	94% 6	95% 94	89% 93	98% 16	97% 57	98% 66	96% 1	23	9
SMPK22	PATHFINDER KOMPLETE K22 SV	+73	54 +11.2			+0.7	+39	+72	+91	+39	+27	+3.0	-5.5	+49	+6.9	+4.2	+5.5	+0.1	+2.3		+28	+0.50	+0.86	+0.68	\$232	\$353
SMPG357	HBR	73%	91%				98%		98%		96%	97%		94%	93%	93%	93%	91%	93%	85%	96%	96%	96%	94%	φΖΟΖ	φυσυ
SMPH756	TIBIX	12	1	1	3	4	91	92	93	99	2	18	26	92	41	1	1	72	44	82	19	3	23	1	17	43
SMPM651	PATHFINDER MASTERPIECE	+31	+0.3	+4.2	-5.4	+5.6	+60	+106	+137	+143	+20	+3.3	-7.9	+62	+9.8	-2.1	-3.4	+1.4	+2.0	-0.22	+48	+0.98	+1.20	+1.14	\$240	\$427
VTMG67 SMPH66	HBR	60%	74%				91%				80%	85%		86%	84%	84%	85%	78%	86%	76%	70%	77%	77%	74%	44	4
	DATUENDED MANUALIO MESO BV	76	70	37	39	81	12	12	14	4	23	12	2	62	15	89	93	6	53	9	1 . 40	76	91	80	11	4
SMPM558 VTMG67	PATHFINDER MAXIMUS M558 PV HBR	+25 75%	-3.7 80%	+1.8 68%		+6.3 96%	+61 94%	+101 94%			+25 89%	+4.8 92%		+58 90%	+9.6 88%	-2.2 86%	-0.6 89%	+0.6 85%	+2.8 89%	-0.26 80%	+48 77%	+0.94 78%	+1.04 78%	+0.88 74%	\$233	\$404
SMPH458	HDK	85	89	63	18	90	9	21	17	8	5	1	1	76	16	91	55	40	31	7	1	69	66	9	16	10
SMPN56	PATHFINDER NUCLEUS N56 SV	+35	+4.2	+2.0	-4.0	+5.6	+62	+109	+140	+126	+17	+4.2	-6.8	+81	+13.7	+0.8	+0.9	+1.0	+1.7	+0.32	+20	+0.72	+0.76	+0.76	\$268	\$452
HIOG18	HBR	50%	73%	58%			94%		94%		80%	92%		90%	89%	88%	89%	80%	90%	83%	84%	85%	85%	81%		
SMPL179		70	38	61	62	81	7	8	10	14	52	3	7	12	2	29	27	18	62	68	49	23	8	1	2	1
SMPP41	PATHFINDER PREMIUM P41 SV	+45 52%	+1.3 73%			+4.9	+59	+105				+4.1	-8.2	+57	+4.4	-0.3	+0.1	-0.1	+3.7	+0.14	+25	+0.86	+1.18	+1.22	\$248	\$433
VTMG67 SMPM53	APR	53	63	62% 15	93% 49	94% 68	91% 13	90% 13	90% 9	83% 11	72% 7	86% 4	56% 1	77% 77	76% 73	77% 55	77% 42	73% 82	77% 14	64% 44	81% 27	69% 52	69% 89	69% 93	7	3
NZE41-97	PINEBANK WAIGROUP 41/97 #	+61	+4.7	-5.2	-4.0	+3.5	+37	+63	+73	+48	+19	+0.9	-3.1	+16	+4.7	+1.4	+0.6	+0.8	+1.1	-0.14	+25	+0.34	+0.94	+1.00	\$151	\$234
NZE53195	HBR	69%	95%	89%	98%				98%		98%	97%		96%	95%	96%	96%	94%	95%	89%	90%	87%	87%	81%	•	•
NZE63988		27	33	97	62	36	94	98	99	99	38	89	87	99	70	19	32	28	78	14	27	1	41	37	89	96
	Breed Average EBVs	+47	+2.2	+2.7	-4.8	+4.1	+50	+90	+117	+101	+17	+2.1	-4.6	+66	+6.4	+0.0	-0.3	+0.5	+2.2	+0.19	+20	+0.85	+0.97	+1.03	+197	+339

Date:

February 28, 2023

ldent	Name																									
Sire		DEV	Calv	-Ease	Bii	rth		rowth		Mate	ernal	F	ert			Card	case			Feed	Temp		tructural		Selection	on Index
Dam	Reg.	mmuneDEX 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
NORE11	RENNYLEA EDMUND E11 PV	+24	+9.9	+0.8	-7.3	+1.2	+35	+65	+84	+55	+16	+1.9	-7.6	+51	+4.8	+3.3	+1.4	-0.3	+4.3	+0.78	+25	+0.58	+1.02	+1.12	\$206	\$328
NGMY145 VLYY5	HBR	79% 86	99% 3	96% 72	99% 14	99% 6	99% 97	99% 97	99% 96	99% 97	99% 58	99% 57	94% 2	98% 89	98% 68	98% 3	98% 20	98% 89	98% 8	95% 97	99% 27	99% 7	99% 61	99% 75	44	63
NORG255	RENNYLEA G255 PV	+63	-11.2	-7.7	-3.6	+4.6	+51	+95	+131	+128	+21	+0.8	-3.8	+90	+7.9	-0.3	-3.2	+0.7	+4.8	-0.11	+13	+1.22	+0.94	+0.84	\$165	\$283
BNAD145 NORC490	APR	81% 24	94% 99	86% 99	98% 69	98% 62	98% 44	98% 36	98% 23	98% 12	98% 19	97% 91	82% 73	96% 4	95% 30	95% 55	96% 91	93% 34	94% 4	90% 16	97% 85	94% 97	94% 41	92% 5	82	86
NORH708	RENNYLEA H708 PV	+96	-4.6	+0.0	+1.2	+4.9	+50	+102	+132	+129	+9	+2.6	-3.8	+72	+13.1	-3.5	-6.5	+1.9	+7.0	+0.71	+27	+0.74	+0.74	+1.00	\$231	\$382
NORC511 NORE176	APR	86% 1	91% 91	80% 78	98% 99	98% 68	98% 48	98% 18	98% 21	97% 12	95% 96	97% 29	74% 73	95% 32	94% 3	94% 98	94% 99	91% 2	94% 1	91% 95	98% 22	95% 27	95% 7	93% 37	17	21
NORK835	RENNYLEA K835 PV	+18	-3.6	-5.5	-2.0	+6.6	+51	+91	+117	+96	+14	+3.2	-5.3	+56	+8.8	+0.6	-1.2	+0.3	+4.1	-0.14	+15	+0.66	+1.16	+1.10	\$205	\$329
NORG420 NORH514	APR	67% 93	82% 89	66% 97	98% 88	95% 93	95% 46	95% 49	95% 50	90% 58	87% 77	89% 14	60% 31	89% 79	88% 22	87% 33	88% 66	84% 60	89% 10	78% 14	90% 77	88% 14	88% 87	85% 70	45	63
NORK522	RENNYLEA KODAK K522 SV	+46		+10.7		+1.3	+47	+86		+112		+4.6		+58	+4.3		+1.5	-0.4	+4.1	+0.34	+7	+0.68	+0.86	+0.98	\$213	\$396
NORE11 NORF810	HBR	71% 51	92%	79% 1	99%	99%	98% 64	98% 64	98%	97%	96% 95	98%		94% 75	93% 74	93%	93%	91% 91	93%	86% 70	95% 96	96% 17	96% 23	94%	36	14
NORL508	RENNYLEA L508 PV	+75	+2.3	+8.7	-6.4	+2.6	+46	+86	+116		+26	+1.3		+57	+6.3	+1.6	-0.8	-0.3	+5.5	+0.57	+20	+0.74	+0.92	+0.92	\$222	\$367
USA17366506 NORH414	HBR	55% 10	94% 54	80% 4	99% 24	99% 20	98% 70		98% 53	98% 66	97% 3	98% 79		95% 78	94% 49	94% 16	94% 59	91% 89	94%	86% 90	98% 49	97% 27	97% 36	95% 16	26	32
NORL683	RENNYLEA L683 PV	+73	+2.5	+1.5	-5.3	+5.3	+55	+94		+105	+5	+1.9		+80	+5.9	+0.5	-1.5	+0.8	+2.0		+21	+0.76	+0.92	+1.00	\$219	\$371
NORE11 NORJ631	APR	71% 12	81% 53	69% 66	98% 41	97% 76	96% 25	96% 39	96% 46	93% 42	90% 99	94% 57	65% 24	90% 14	89% 54	86% 36	89% 71	84% 28	90% 53	83% 96	95% 45	88% 31	88% 36	85% 37	28	29
NORM1078	RENNYLEA M1078 <sup>SV</sup>	+75	-2.0	-2.2	-2.3	+3.1	+41	+82	+104	+95	+13	+1.9		+60	+11.1	-1.2	-4.6	+0.8	+8.0		+12	+0.94	+1.00	+1.20	\$216	\$344
NORH708	APR	55%	74%	61%			95%		94%	91%	84%	92%		90%	89%	89%	90%	81%	91%	82%	94%	87%	87%	84%	•	ΨΟΤΙ
NORF563		10	82	90	85	28	87	75	78	60	85	57	39	69	8	76	98	28	1	99	88	69	56	91	32	51
NORP987	RENNYLEA P987 PV	+60	+9.3	+8.9	-8.7	+1.8	+52	+100		+119		+1.2		+79	+5.0	+4.3	+3.1	-1.9	+8.3		+10	+0.94	+0.90	+1.06	\$240	\$425
NORM763 NORM1184	APR	52% 29	72% 4	55% 3	95% 6	95% 10	93% 42	92% 23	90% 21	84% 21	71% 66	89% 82	49% 53	77% 15	77% 66	78% 1	78% 6	72% 99	77% 1	61% 99	93% 93	61% 69	61% 31	60% 58	11	4
NORQ1081	RENNYLEA Q1081 PV	+82	+0.7	+3.4	-3.3	+3.4	+49	+89	+114	+92	+12	+3.0	-5.9	+52	+12.0	+0.6	-0.8	+0.7	+6.4	+0.64	+14	+0.84	+1.00	+0.94	\$259	\$405
NORH708 NORL841	APR	57% 4	69% 67	57% 46	88% 73	87% 34	85% 54	83% 53	81% 57	79% 65	70% 90	81% 18	51% 18	74% 88	72% 5	73% 33	73% 59	69% 34	74% 1	64% 93	81% 82	69% 48	73% 56	69% 20	3	10
NORQ213	RENNYLEA Q213 PV	+29	+10.8	+7.9	-7.8	+1.1	+66	+124	+160	+115	+29	+0.4	-8.0	+105	+10.4	-0.6	-1.1	+0.2	+3.8	+0.58	+28	+0.56	+0.76	+0.84	\$322	\$521
NORK907 NORL110	APR	53% 79	72% 2	57% 7	96% 11	96% 5	94% 3	92% 1	90% 2	84% 26	71% 1	90% 96	50% 1	77% 1	77% 11	78% 62	78% 64	73% 66	77% 13	62% 90	92% 19	69% 5	70% 8	67% 5	1	1
APBK11	SHACORRAHDALU KINETIC K11	+20	+11.2	+11.1	-9.5	+0.8	+49	+92	+108	+100	+10	+5.0	-7.9	+61	+9.6	+2.3	+0.7	+1.0	+1.5	+0.68	+7	+0.96	+1.08	+0.98	\$245	\$429
VTMB1 APBF2	HBR	51% 91	73% 1	64% 1	91% 3	90% 4	87% 54	83% 45	83% 71	81% 52	77% 96	78% 1	58% 2	76% 66	68% 16	71% 8	71% 30	66% 18	71% 67	64% 94	79% 97	72% 72	70% 74	69% 31	8	3
NZE19507013	STORTH OAKS JACK J7 SV	+14	+7.0	+9.8	-5.3	+4.8	+61	+113	+154	+140	+19	+3.3	-2.6	+85	+8.4	-0.3	-2.9	-0.3	+2.4	+0.21	+26	+0.96	+0.98	+0.94	\$200	\$389
VTME343 NZE19507111G183	HBR	69% 97	86% 15	74% 2	98% 41	98% 66	97% 9	97% 5	97% 3	93% 6	90% 31	96% 12	67% 92	93% 8	91% 25	91% 55	92% 89	88% 89	92% 41	84% 54	96% 25	92% 72	92% 51	89% 20	51	17
	Breed Average EBVs	+47	+2.2	+2.7	-4.8	+4.1	+50	+90	+117	+101	+17	+2.1	-4.6	+66	+6.4	+0.0	-0.3	+0.5	+2.2		+20	+0.85	+0.97	+1.03	+197	+339

Date:

February 28, 2023

Ident	Name																									
Sire			Calv	-Ease	Bii	rth		rowth	1	Mate	ernal	F	ert			Card	case			Feed	Temp		tructura	l	Selection	on Index
Dam	Reg.	ImmuneDEX IMD		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
VSNG34	STRATHEWEN BERKLEY G34 PV	+40	+7.3	+6.7	-7.3	+3.9	+56	+103	+139	+144	+18	+2.2	-6.7	+82	+6.2	+1.1	+0.3	+0.5	+1.3	-0.15	+16	+1.14	+1.26	+1.10	\$220	\$421
VTMB1 VSNE22	HBR	70% 62	79% 13	69% 14	94% 14	93% 46	91% 22	91% 18	91% 12	88% 4	85% 44	83% 44	65% 8	89% 11	88% 50	88% 23	89% 38	84% 47	90% 73	82% 13	86% 70	88% 93	88% 95	84% 70	27	5
USA17236055	SYDGEN BLACK PEARL 2006 PV	+9	+4.1	+8.1	-7.5	+3.2	+51	+84	+122	+82	+23	+1.7	-4.1	+74	+8.6	+0.1	-0.6	+0.6	+2.2	+0.04	+13	+1.06	+1.18	+1.12	\$220	\$354
USA15354674 USA16214508	HBR	76% 99	97% 38	91% 6	99% 13	99% 30	99% 46	99% 68	99% 41	98% 80	98% 12	99% 65	87% 65	97% 26	96% 24	97% 45	97% 55	96% 40	96% 47	90% 31	98% 82	99% 86	99% 89	97% 75	28	43
VTMA149	TE MANIA ADA A149 PV	+39	-7.5	-4.9	-3.6	+6.5	+52	+95	+127	+168	+10	+1.8	-2.3	+81	+3.8	-3.4	-2.2	+1.5	-0.6	-0.69	+24	+0.88	+0.76	+0.78	\$91	\$240
VTMX60 VTMU338	HBR	64% 63	97% 96	91% 97	99% 69	99% 92	99% 43	99% 37	99% 30	98% 1	98% 95	98% 61	86% 94	97% 13	96% 80	97% 98	97% 81	96% 5	96% 99	91% 1	96% 30	97% 57	97% 8	96% 2	99	96
VTMK52	TE MANIA KALIBROOK K52 PV	+45	+8.2	+4.7	-2.7	+1.4	+51	+104	+127	+93	+29	+1.8	-6.8	+68	+2.0	+1.3	+2.4	-1.1	+5.9	+1.47	+18	+1.10	+1.06	+1.06	\$258	\$428
USA16295688	HBR	71%	73%	63%			89%		88%		73%	83%		85%	84%	82%	85%	80%	86%		83%	88%	88%	84%		
VTMH423		53	9	32	81	7	46	14	30	64	1	61	7	45	92	20	10	99	1	99	62	90	70	58	4	4
VTMK138	TE MANIA KIRBY K138 PV	+18 68%	+0.8 93%	+6.4 81%		+4.3 99%	+49 98%	+89 98%	+119 98%	+93 97%	+19 96%	+2.4	-9.4	+66	+5.3 95%	+1.8 94%	+3.1 96%	-1.9 92%	+8.7 95%		+9 98%	+0.84 98%	+0.76 98%	+1.00 97%	\$266	\$427
USA16295688 VTMH17	HBR	93	66	16	90	55	53	54	47	64	32	97% 36	77% 1	96% 51	62	13	6	92%	95%	99	96%	48	8	37	2	4
VTMM13	TE MANIA MAGNATE M13 PV	+32	-2.0	+8.3	-12.1	+4.2	+51	+91	+112	+80	+32	+2.3	-7.7	+59	+5.2	-2.0	-1.4	+0.6	+1.6	+0.26	+29	+1.04	+1.26	+1.22	\$221	\$354
HIOH9	HBR	57%	84%	70%			97%			95%	92%	96%		95%	92%	89%	95%	85%	92%		97%	91%	92%	87%		
VTMK200		75	82	5	1	53	45	49	61	82	1	40	2	72	63	88	70	40	64	61	15	84	95	93	26	43
VTMN424	TE MANIA NEBO N424 PV	+51 51%	+10.6 86%	76%	-7.1 98%	+4.0 98%	+53 98%	+103 98%	+128 98%		+33 91%	+4.5 96%		+57	+7.5 93%	-1.3	-3.8	+0.3	+4.5		+50 97%	+0.74 91%	+0.74 91%	+1.00 87%	\$212	\$365
VTMJ89 VTMJ214	HBR	43	2	86	16	48	37	17	28	95% 45	1	2	56% 71	93% 76	34	89% 78	93% 95	84% 60	92% 6	22	1	27	7	37	37	34
VTMN1387	TE MANIA NEON N1387 SV	+19	+0.3	+4.1	-6.2	+3.0	+47	+87	+107	+84	+22	+1.7	-7.5	+49	+3.0	-0.5	-1.2	-1.9	+9.8	+0.46	+30	+0.82	+0.80	+1.06	\$234	\$375
VTMK138	HBR	50%	78%	60%			96%	00,0			72%	93%		82%	84%	82%	84%	77%	82%		95%	77%	77%	74%		
VTML452		92	70	38	27	26	65	61	73	77	17	65	3	92	86	60	66	99	1	82	14	43	13	58	15	26
VTMN181	TE MANIA NERO N181 PV	+74 52%	-13.7 83%	-5.9 70%	-2.9 98%	+5.6 97%	+62 97%		+143 96%	+126 93%		+5.2		+73	+6.6	-4.3	-4.9	+0.4	+6.2		+32	+0.84	+0.96	+1.20 81%	\$207	\$334
VTML135 VTML1251	HBR	11	99	98	78	81	8	10	8	93%	84% 2	92% 1	52% 13	92% 30	91% 45	87% 99	91% 99	81% 54	90% 1	75% 54	93% 11	84% 48	84% 46	91	42	58
VTMP888	TE MANIA PESO P888 PV	+53	+9.1	+5.0	-5.8	+1.5	+57	+118	+149	+123	+26	+2.3	-6.1	+93	+2.8	-0.3	+0.8	+0.0	+1.9	+0.55	+36	+0.88	+1.06	+0.98	\$243	\$434
VTMK226	HBR	56%	81%	66%			96%				78%	90%		85%	87%	84%	86%	79%	84%		94%	73%	73%	72%		
VTMH423		40	5	29	33	8	21	2	5	17	3	40	15	3	88	55	29	77	56	89	5	57	70	31	9	3
DBLL292	TOPBOS LEADING EDGE L292 PV	+26 74%	+0.7 85%	+6.0 69%		+7.1 98%	+74 97%			+161	+22 93%	+1.6		+88	+3.9	-2.4 88%	-5.0	+0.4	+1.1	-0.02	+27 95%	+1.00	+0.76	+0.78 87%	\$230	\$428
USA16295688 VSNF04	HBR	84	67	19	37	96	1	1	97% 1	94% 1	93%	96% 68	65% 33	92% 5	90% 78	93	91% 99	85% 54	91% 78	83% 24	95% 22	91% 79	90% 8	87% 2	18	4
ELYH1	TRIO DOCKLANDS H1 PV	+7	+8.7	+3.4	-8.9	+2.1	+42	+82	+112	+74	+29	+2.9	-6.9	+69	-0.9	+2.6	+4.7	-0.9	+1.4	-0.45	+18	+0.80	+1.26	+1.10	\$191	\$333
QHED62	HBR	64%	76%	64%			92%				88%	87%			85%	85%	86%	83%	87%		82%	83%	83%	78%		
NKLD15		99	6	46	5	13	84	74	62	89	1	21	6	40	99	6	2	98	70	2	62	39	95	70	61	60
NZE17691009	TURIHAUA CRUMP E5 SV	+77 63%	-2.8 91%	-2.1 82%	-5.9 97%	+3.7 98%	+30 97%	+57 98%	+83	+96		+1.0			-0.6	+4.4	+2.8	-0.1	+1.2		+29	+0.66	+1.22 84%	+1.20 78%	\$128	\$255
NZE17691003Y167 NZE17691195Q263	HBR	8	86	89	31	41	99	98%	98% 97	97% 59	97% 75	97% 87	87% 1	95% 99	94% 99	94% 1	94% 7	93% 82	94% 75	85% 64	80% 16	83% 14	84% 93	78% 91	96	93
	Breed Average EBVs	+47	+2.2	+2.7	-4.8	+4.1	+50	+90	+117	+101	+17	+2.1	-4.6	+66	+6.4	+0.0	-0.3	+0.5	+2.2	+0.19	+20	+0.85	+0.97	+1.03	+197	+339

Date:

February 28, 2023

Ident	Name																									
Sire		ImmuneDEX	Calv	-Ease	Bi	rth		rowth	<u> </u>	Mate	ernal	F	ert			Card	case			Feed	Temp		Structura	<u> </u>	Selection	n Index
Dam	Reg.	IMID	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
NXTL096	TWYNAM L096 SV	+58	+8.5	+9.2	-8.1	+2.9	+58	+112	+161	+138	+28	+3.5	-8.7	+108	+2.5	+0.8	+0.7	-0.7	+3.0	-0.22	+11	+0.62	+0.86	+0.90	\$253	\$465
NXTH111 NXTJ078	APR	66% 32	67% 7	49% 3	93% 9	92% 25	88% 15	89% 6	88% 2	82% 6	67% 2	83% 9	49% 1	84% 1	83% 90	80% 29	84% 30	77% 96	85% 26	85% 9	75% 91	74% 10	75% 23	69% 12	5	1
BSCF73	WAITARA PIO FEDERAL F73 SV	+50	+5.1	+5.5	-4.4	+1.5	+55	+103	+133	+89	+27	+2.6	-3.6	+89	+5.1	-0.6	-0.6	+0.3	+1.3	+0.33	+16	+1.40	+1.22	+0.92	\$217	\$363
USA15688392 BSCZ66	HBR	76% 44	88% 30	73% 24	98% 56	98% 8	97% 27	97% 17	97% 19	96% 70	96% 2	96% 29	68% 78	94% 4	93% 65	93% 62	94% 55	88% 60	93% 73	86% 69	96% 71	95% 99	95% 93	92% 16	31	36
QKBP29	WARRAWEE PATROL P29 PV	+58	+10.2	+11.6	-13.3	+2.6	+56	+107	+145	+129	+22	+2.6	-6.6	+104	+8.6	+3.2	+1.7	-0.1	+1.9	+0.47	+27	+0.80	+1.24	+0.94	\$244	\$446
SMPG357 QKBM01	HBR	64% 32	70% 2	59% 1	93% 1	90% 20	87% 24	86% 10	85% 7	81% 11	72% 14	80% 29	56% 9	80% 1	80% 24	81% 3	81% 16	75% 82	82% 56	71% 83	79% 20	77% 39	77% 94	73% 20	9	2
NWPG188	WATTLETOP FRANKLIN G188 SV	+49	+4.4	+7.3	-4.7	+2.2	+64	+109	+142	+120	+24	+3.7	-3.3	+87	+1.4	-1.2	-1.5	-0.3	+0.9	-1.11	+33	+1.02	+0.94	+0.92	\$193	\$360
USA15462648 NWPE295	HBR	65% 46	94% 36	83% 10	99% 51	99% 14	98% 5	98% 8	98% 9	97% 19	97% 7	98% 7	71% 84	95% 6	94% 95	94% 76	94% 71	91% 89	93% 82	86% 1	96% 8	95% 82	95% 41	92% 16	58	38
NWPL4	WATTLETOP LOCK L4 SV	+34	-3.2	-0.3	-8.1	+6.3	+60	+107	+156	+150	+27	+1.6	-2.3	+101	+7.4	+1.3	+1.6	+0.3	+1.1	+0.09	+15	+1.10	+0.84	+0.80	\$174	\$332
USA15738589 NWPJ70	HBR	71% 71	76% 87	64% 80	96% 9	96% 90	94% 12	95% 10	95% 2	90% 3	86% 2	93% 68	60% 94	90% 1	88% 35	88% 20	89% 17	84% 60	90% 78	80% 37	91% 75	84% 90	84% 19	79% 3	76	60
NWPE111	WATTLETOP SITZ 458N E111 SV	+17	+3.9	+6.9	-4.6	+2.7	+47	+87	+118	+91	+27	+1.9	-1.8	+77	+5.5	-3.9	-3.5	+1.0	+3.3	-0.52	+34	+0.88	+0.86	+1.02	\$188	\$318
USA14474596 NWPC36	HBR	67% 94	88% 40	76% 12	97% 52	97% 21	96% 63	97% 62	97% 48	95% 67	96% 2	95% 57	71% 97	93% 21	91% 60	91% 99	92% 93	88% 18	92% 20	83% 1	93% 7	86% 57	86% 23	81% 44	64	69
CWDJ17	WEATHERLY JAMES J17 SV	+36	-2.4	-3.8	-4.2	+6.4	+49	+85	+111	+111	+4	+1.7	-5.3	+65	+10.0	+1.5	+2.3	+1.1	+3.2	+0.07	+14	+0.86	+1.20	+1.00	\$214	\$352
BNAD145 CWDF14	HBR	74% 68	75% 84	66% 94	93% 59	92% 91	90% 53	90% 67	91% 65	87% 32	83% 99	82% 65	65% 31	89% 53	88% 13	88%	88%	84%	90% 22	82% 35	83% 78	87% 52	86% 91	80% 37	34	44
	Breed Average EBVs	+47	+2.2	+2.7	-4.8	+4.1	+50	+90	+117	+101	+17	+2.1	-4.6	+66	+6.4	+0.0	-0.3	+0.5	+2.2		+20	+0.85	+0.97	+1.03	+197	+339



Angus Australia Phone: 02 6773 4600 Email: office@angusaustralia.com.au Website: www.angusaustralia.com.au

