

Boerboel Genetic Evaluation

SA Stud Book
February 2026

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BACHBRECHT
WINDHOEK
NAMIBIA



Kennel Number: 676212



Estimated Breeding Values (EBVs)

Litter size and conformation traits are influenced by many genes, with every gene making a small contribution to the expression of the trait. These traits are, however, also influenced by physiological and physical environmental factors, for example the age and sex of the animal, the feeding and management the animal received and year x season effects. It is therefore not possible to know what the animal's genetic potential for the trait is by merely using the measurement.

With BLUP (*Best Linear Unbiased Prediction*) methodology an animal's genetic potential is predicted by making use of the genetic parameters (heritabilities and genetic correlations) of the breed, pedigree information, as well as the measurements of the animal as deviation from the average of the animals that were measured with the animal. Adjustments are made for differences in sex, age, classifier, management and year x season effects to ensure that fair comparisons are made amongst the animals. These predictions are called **EBVs (Estimated Breeding Values)** which indicates the animal's genetic potential for the specific trait and predicts the type of progeny that the animal will breed.

Pedigree information determines the genetic level at which the animal enters the genetic evaluation, it links the information of all relatives together and it is used to determine the genetic ranking of the breed. For young animals that were not yet measured, mid-parent EBVs are estimated, which are the average of the EBVs of the sire and dam. These breeding values are still inaccurate and can change a lot when more information (measurements) is included in subsequent genetic evaluations.

Breeding values therefore enables a breeder to compare his/her animals genetically to one another, as well as to all other animals of the breed. This Report gives a summary of the genetic levels of the active males and females of the relevant breeder in comparison to that of the breed for linearly classified traits and litter size. The genetic change that occurred over time can also easily be seen.

Breeding Value Indices (EBVi)

For easy interpretation, EBVs are standardised and expressed relative to the average (100) of the active animals of the breed, using 12 as standard deviation (SD). This means that an EBV of 100 is equal to the active average of the breed, and more or less 50% of the animals will have EBVi's of between 90 and 110, which indicates an average animal. Only 0.5% of the EBVi's will be lower than 64 and 0.5% will be higher than 136. Higher EBVi's indicate better genetic potential for the trait.

Accuracy

EBVs are published with an **accuracy value (%)**, which indicates how much info was available for the estimation of the EBV and with how much trust it can therefore be applied. Factors that influence the accuracy include heritability, completeness and correctness of pedigree information, number of own and measured relatives and the size of the group in which the animal was measured. When an accuracy of 85% and more is reached, the EBV should not change significantly with the inclusion of more information in subsequent genetic evaluations.

Kennel and Breed Averages: The different traits' averages of the breeder's active animals are compared to those of the breed in the Kennel and Breed Average Graphs and Tables. The breeder can therefore easily see for which traits the animals are above or below the average of the breed.

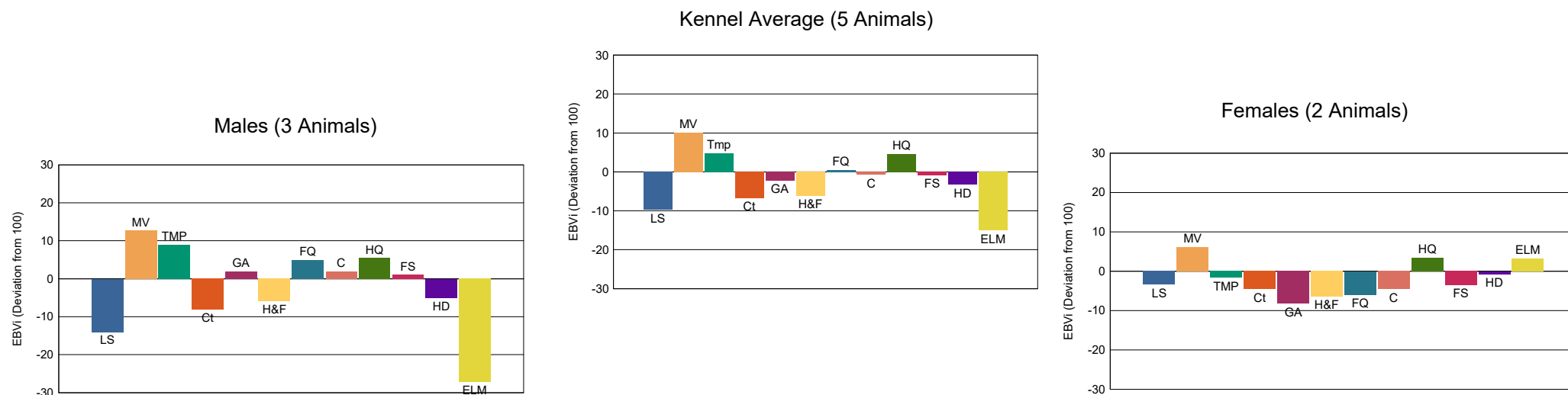
Genetic Trends: The Genetic Trends indicate the genetic change that occurred over time in the animals bred by the breeder compared to that of the breed. These are calculated as the average of the breeding values of all measured animals bred by the breeder, per year of birth.

Inbreeding: Inbreeding is the mating of related animals and is widely viewed as being harmful. The danger of inbreeding lies there in that it can gradually decrease fertility and survivability – a phenomenon known as inbreeding depression. It can cause lower conception rates, more abortions, more stillborn and weak offspring and a higher susceptibility to diseases. Indications in dogs include a low litter size as well as problems relative to fertility, such as invisible heat, behavioural problems when mating and low sperm quality. Overall, reduced litter size most likely reflects inbreeding depression in several traits, both physiological and behavioural, as well as a high frequency of non-viable embryos due to lethal alleles. Generally, the effects of inbreeding can become noticeable at a value of 6.25%, therefore it is generally recommended that individuals should have inbreeding coefficients of less than 6.25%. Breeders should therefore avoid matings causing inbreeding of more than 6.25% in the progeny. The theoretical maximum inbreeding coefficient is 50%. However, it should be noted that not all inbred animals show signs of inbreeding depression.

The data used in this evaluation was obtained from LOGIX from linear classifications that were done by the Breeder Society. All possible attempts have been made to present the information correctly. SA Stud Book does not accept responsibility for the use and interpretation of the information presented on animals in this publication.

Genetic Levels

Kennel Average relative to Breed Average, where Breed Average is indicated as 0



Average Breeding Value Indices (EBVi) where Breed Average = 100

Trait	All Animals	Males	Females
Litter size (LS)	90	86	97
Movement (Mv)	110	113	106
Temperament (Tmp)	105	109	98
Coat (Ct)	93	92	95
General Appearance	98	102	92
Head & Face (H&F)	94	94	94
Front Quarter (FQ)	101	105	94
Centre (C)	99	102	95
Hind Quarter (HQ)	105	105	103
Final Score (FS)	99	101	96
Hip Health (HH)	97	95	99
Elbow Health (ELM)	85	73	103

Inbreeding

Notes

Inbreeding primarily leads to decreased fertility, low survivability of pups and low disease resistance.

Inbreeding coefficients are calculated for all animals of the breed and indicates the probability that two genes of a pair are the same due to a common ancestor in the pedigree of the animal.

The adverse effects of inbreeding can be observed from 6.25% onwards.

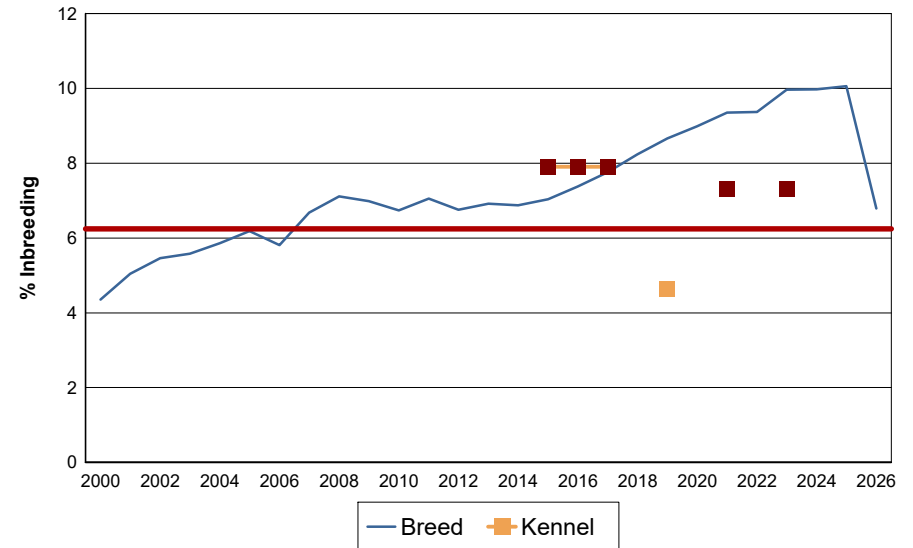
It is therefore highly recommended to record pedigree information as accurately. Inbreeding is dependent on pedigree information. Conventional methods for the calculation of inbreeding coefficients usually assume that unknown parents are unrelated, which is usually far from the truth. Inbreeding coefficients are therefore conservative indicators of the level of inbreeding.

Incomplete or incorrect pedigree information can be reported to SA Stud Book via the Breed Society.

Inbreeding Levels for Specific Matings

Progeny with Parents :	25%
Full Brother x Full Sister :	25%
Half Brother x Half Sister :	12.5%
One Common Grandparent :	6.25%
One Common Great-Grandparent :	3.125%

Rate of Inbreeding

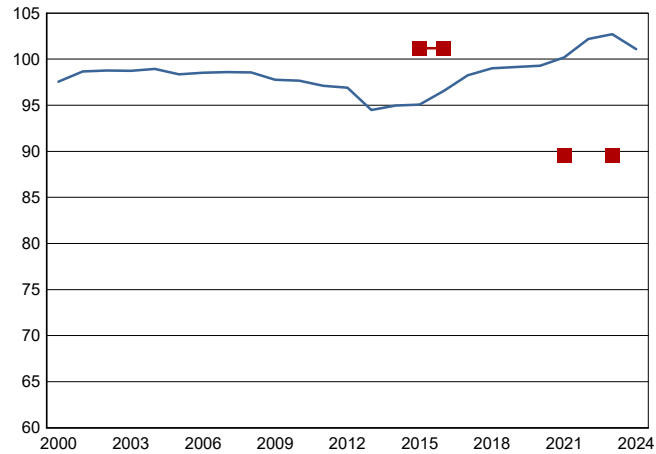


Inbreeding Levels

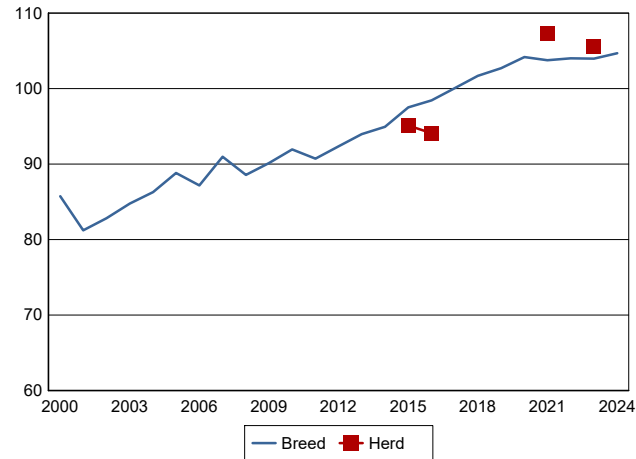
	All Animals		Males		Females		Sires		Dams	
	Kennel	Breed	Kennel	Breed	Kennel	Breed	Kennel	Breed	Kennel	Breed
Number	5	49007	3	25141	2	23857	4	3371	5	6287
Average Inbreeding	6.50	8.49	6.99	8.46	5.76	8.53	9.46	8.01	9.12	8.00
Number inbred	5	48727	3	24990	2	23728	4	24990	5	23728
Number >6.25% Inbr.	3	30600	2	15537	1	15058	4	15537	3	15058

Genetic Trends

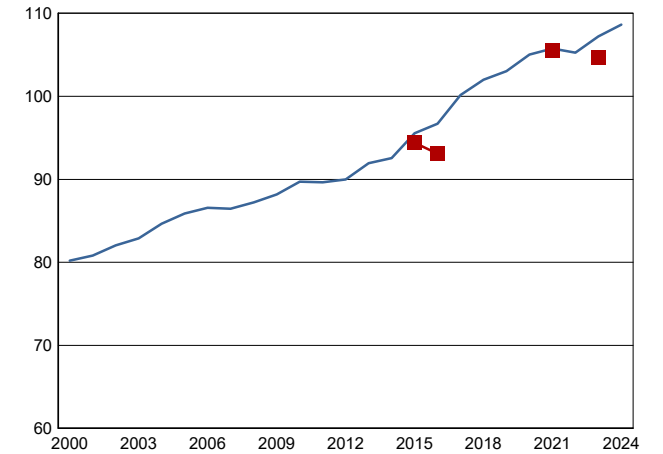
Litter Size



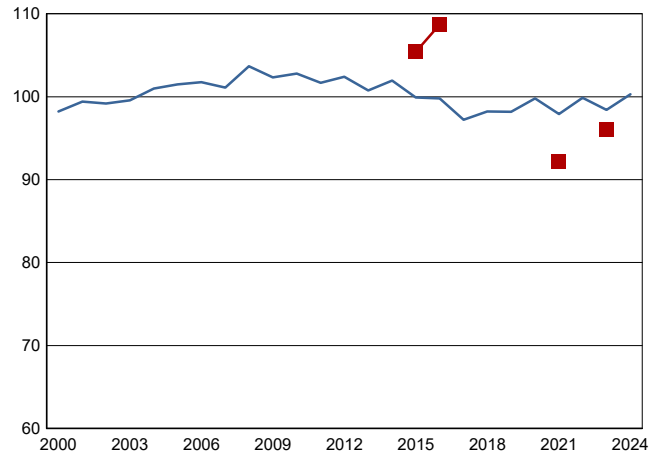
Movement



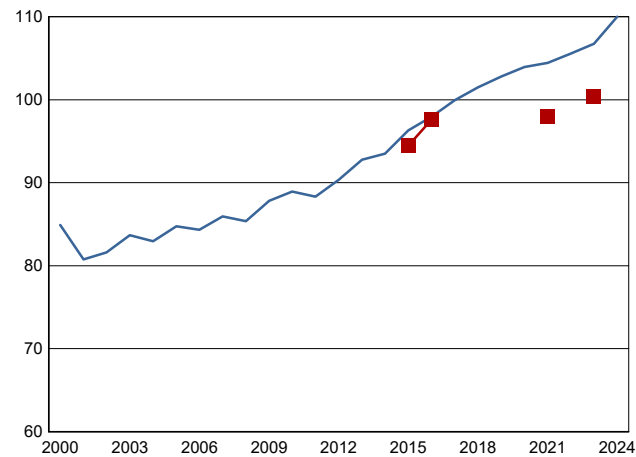
Temperament



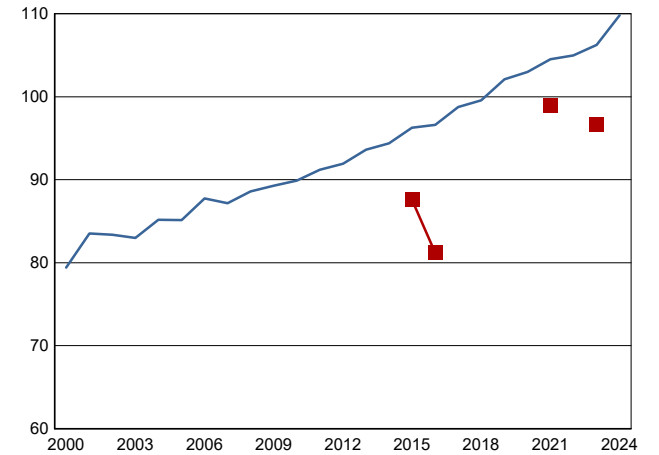
Coat



General Appearance

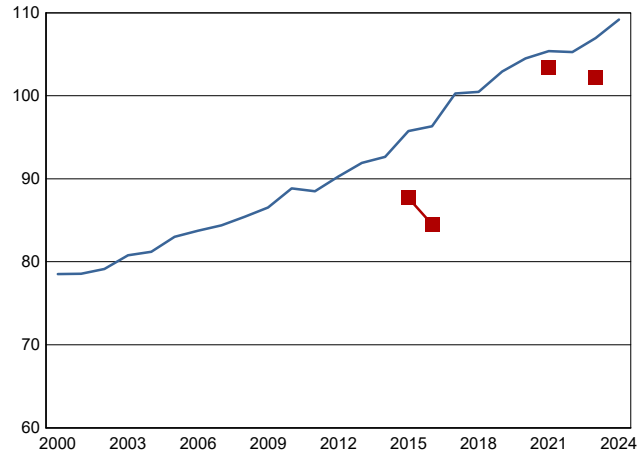


Head & Face

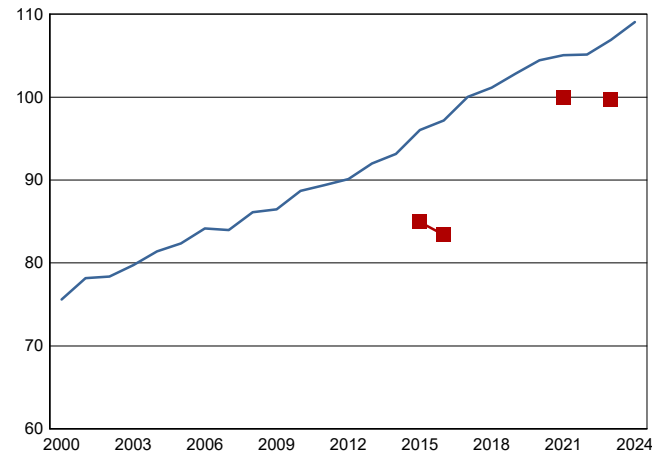


Genetic Trends

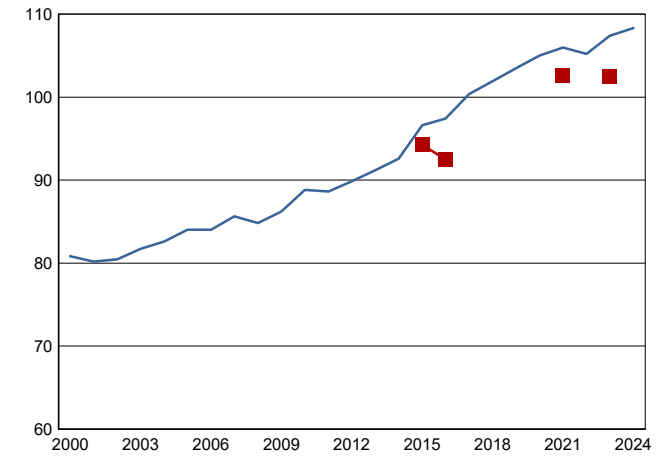
Front Quarter



Centre

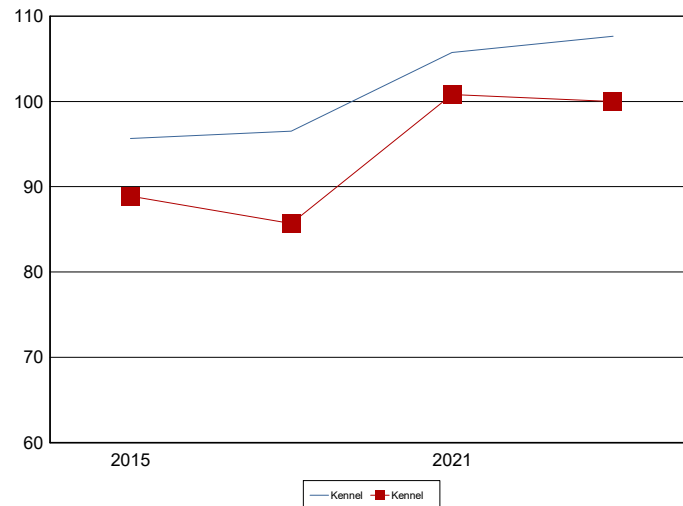


Hind Quarter

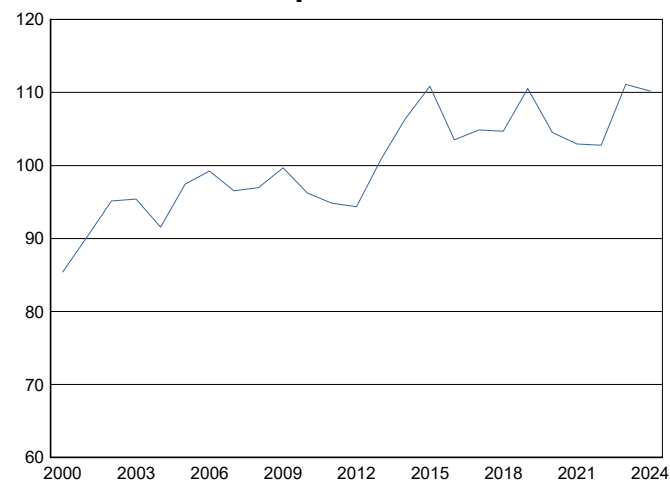


Final Score & Health Traits

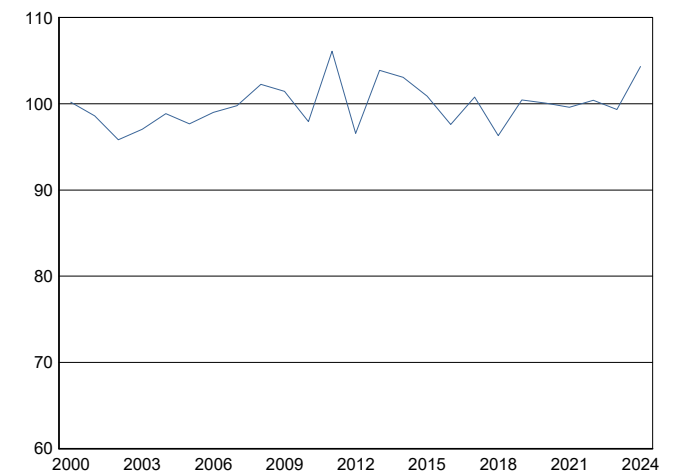
Final Score



Hip Health



Elbow Health



Estimated Breeding Value Indices (EBVi's)

Males

Inbreeding >6.25% is high

< 80

>= 100

>= 120

Animal Information			Inbreed	Health		Fertility	General			Appearance						Progeny :		Appraisal	Health		Progeny with litters
Name	BYr	Sire Dam	%	Hips Acc.	Elbows Acc.	Litter Size Acc.	Move- ment	Tempe- rament	Coat	General Appear.	Head & Face	Front Quarter	Centre	Hind Quarter	Final Score	Progeny	Litters	Progeny Kennels	Hips	Elbows	
KLEIN SANDFONTEIN SMASH		KLEIN SANDFONTEIN FINN	8.35	95	62	83	118	115	95	108	97	112	109	110	107	13	3	5			1
	2020	MES O' HARA		5	5	28	50	23	65	50	64	51	53	56	60			4			1
HAMMERHEAD MACHO		KLEIN SANDFONTEIN SMASH	7.32	96	88	90	106	106	99	104	104	104	98	97	102						
	2021	HAMMERHEAD KATANA		5	5	5	31	5	50	30	48	32	35	38	43						
TANGI AGAROB		KLEIN SANDFONTEIN SMASH	5.29	94	68	86	114	106	82	93	81	98	99	109	94						
	2022	BJL BELLA 1		5	5	5	38	5	56	37	55	39	41	44	50						

Estimated Breeding Value Indices (EBVi's)

Females

Inbreeding >6.25% is high

< 80

>= 100

>= 120

Animal Information			Inbreed	Health		Fertility	General			Appearance						Progeny :		Appraisal	Health		Progeny with litters
Name	BYr	Sire Dam	%	Hips Acc.	Elbows Acc.	Litter Size Acc.	Move-ment	Tempe-rament	Coat	General Appear.	Head & Face	Front Quarter	Centre	Hind Quarter	Final Score	Progeny	Litters	Progeny Kennels	Hips	Elbows	
HAMMERHEAD KATANA		QUINTESSENCE BRAVO	4.64	97	115	96	93	95	98	93	96	92	91	95	93	5	2	3			1
	2019	HAMMERHEAD KIA		5	5	5	28	5	44	27	43	29	31	34	39						1
BIG PAW DONNA		HAMMERHEAD SENSEI	6.88	101	92	97	120	102	93	91	91	96	100	112	100						
	2022	KALAHARI SANDS KITARA		5	5	5	32	5	53	31	52	33	36	39	46						

Estimated Breeding Value Indices (EBVi's)

Sires

Inbreeding >6.25% is high

< 80

>= 100

>= 120

Sire Information			Inbreed	Health		Fertility	General			Appearance						Progeny :	Appraisal	Health		Progeny with litters
Name	BYr	Sire Dam	%	Hips Acc.	Elbows Acc.	Litter Size Acc.	Move-ment	Tempe-rament	Coat	General Appear.	Head & Face	Front Quarter	Centre	Hind Quarter	Final Score	Progeny Litters	Progeny Kennels	Hips	Elbows	
QUINTESSENCE BRAVO		MES SAVUTI	11.68	95	121	91	87	93	98	96	99	95	96	95	95	2				1
	2015	KATANA CHIKA		5	5	16	48	14	66	47	65	49	51	54	60					1
KLEIN SANDFONTEIN FINN		KLEIN SANDFONTEIN BENGAL	10.50	81	21	76	131	117	86	105	95	107	104	110	105	53	8	17		11
	2017	KLEIN SANDFONTEIN SAGE		29	45	38	66	38	80	65	79	67	69	71	76					4
KLEIN SANDFONTEIN SMASH		KLEIN SANDFONTEIN FINN	8.35	95	62	83	118	115	95	108	97	112	109	110	107	13	3	5		1
	2020	MES O' HARA		5	5	28	50	23	65	50	64	51	53	56	60					1
HAMMERHEAD SENSEI		KLEIN SANDFONTEIN SMASH	7.32	96	88	90	109	105	85	92	94	102	102	108	100	8	2	2		
	2021	HAMMERHEAD KATANA		5	5	5	35	5	54	34	53	36	39	42	47					

Estimated Breeding Value Indices (EBVi's)

Dams

Inbreeding >6.25% is high

< 80

>= 100

>= 120

Animal Information			Inbreed	Health		Fertility	General			Appearance						Progeny :		Appraisal	Health		Progeny with litters
Name	BYr	Sire Dam	%	Hips Acc.	Elbows Acc.	Litter Size Acc.	Move- ment	Tempe- r ament	Coat	General Appear.	Head & Face	Front Quarter	Centre	Hind Quarter	Final Score	Progeny Litters	Progeny Kennels		Hips	Elbows	
HAMMERHEAD KIA		AFRIKA SAMBA BOY	7.91	100	108	101	96	95	104	94	88	88	85	94	89	2					1
	2015	VOEL GERUS SALSA		5	5	18	31	5	43	31	43	32	34	36	39						1
MES O` HARA		MES MASCOT	18.58	109	103	90	105	116	93	106	103	119	119	115	112	17	4	8	1	1	8
	2016	MES BEULA		5	5	60	64	40	77	63	77	65	67	69	73						2
BJL BELLA 1		GIANTS OF AFRICA BUFFEL 1	6.12	93	74	89	100	97	95	89	86	94	92	98	90	13	2	4			1
	2019	BJL DAKOTA		5	5	20	39	8	54	38	53	39	42	44	49						1
HAMMERHEAD KATANA		QUINTESSENCE BRAVO	4.64	97	115	96	93	95	98	93	96	92	91	95	93	5	2	3			1
	2019	HAMMERHEAD KIA		5	5	5	28	5	44	27	43	29	31	34	39						1
KALAHARI SANDS KITARA		DEO-HAN JUBA	8.37	106	96	105	115	99	115	102	98	96	96	105	102	14	2	4			
	2021	NAMIBWAGTER DIXIE		5	5	5	43	7	60	42	59	44	46	49	54						

