

Selection Values

Breeders usually want to select more than one trait at a time. However, it is difficult to identify the 'best' animal when there are many traits and consequently many breeding values involved. A selection value combines different weighted breeding values into a single value. Breeding values are weighted according to their economic importance and genetic heritability and this includes the advantages and disadvantages of different traits in a balanced way. For example, fertility counts much more than Calfing Ease. The sub-indices and Cow value are also individually expressed as ratios, where 100 indicates the average of all the animals.

Table 1: The traits and breeding values used to compile the Cow Value

Sub-value	Weight (%)	Breeding Value	Breeding value weight (%)
Calfing Ease	5%	Birth Direct	6 (+)
		Birth Maternal	3 (+)
Calf Growth	25%	Wean Direct	25 (+)
Milk	18%	Wean Maternal	18 (+)
Maintenance	12%	Mature Weight	12 (+)
Fertility	30%	Wean Fertility	10 (+)
		Cow Fertility	13 (+)
		Longevity	13 (+)

What does the 'best' animal look like?

The animal with the highest selection values is theoretically the ideal animal. Calfing ease: An animal with negative breeding values for Birth Direct and Birth Maternal will have a positive Calfing Ease value.

Calf Growth: Animals with a higher Weaning weight breeding value (Wean Direct) will have a higher Calf Growth value.

Milk: Animals with a positive milk breeding value (Wean Maternal) will get a higher Milk value.

Maintenance: Mature weight is weighted negatively because larger cows require more energy for maintenance.

Fertility: Negative breeding values indicate more fertile animals, and therefore fertility is weighted negatively. This will result in positive selection values.

Cow value: The sub-values are combined as in the table to obtain the cow value. Growth value: This combination of traits places more emphasis on growth. Weighing is as follows: Calfing Ease 7%, Calf Growth 53%, Milk 20% and Maintenance 20%.

Production value: The Cow value and Growth value are weighted in a 70:30 ratio.

Breeding Objectives

A breeding objective is still essential, as two animals with different strengths and weaknesses may receive the same Selection Value. The bull with the highest Cow Value should therefore not be selected blindly, sub-values should also be inspected. Select bulls carefully, for example:

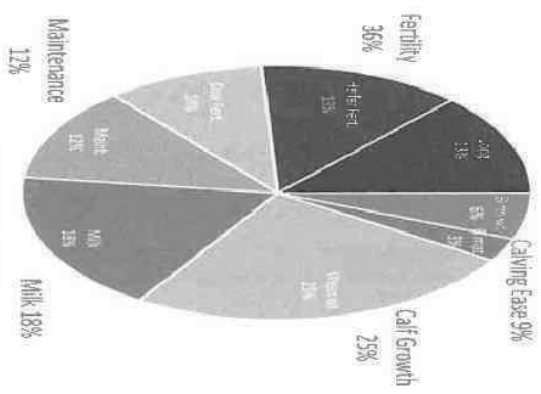
Bull to use on heifers: High Calfing Ease and average Calf Growth and Maintenance.

These traits are antagonistic to each other since low birth weight is associated with low growth and low mature weight, resulting in a small cow which will not calve easily in future.

Bull to breed replacement heifers: High Fertility, good Milk and Calf Growth, average Maintenance.

Bull for (terminal) crossbreeding: ONLY on mature crossbred cows that are easy-calving and in a good environment! Maximum Calf Growth, Fertility and Milk are not important if all offspring are slaughtered.

BORAN Cow Value



BORAN BEESTELERSGENDOTSAP VAN SA
EXPLANATION OF ABBREVIATIONS IN CATALOGUE
VERDUIDELIKING VAN AFKORTINGS IN KATALOGUS

Identification number		Ident. Number		Ident. Nommer		Identifikaasnommer	
Ind	Acc.	Ind	Acc.	Ind	Acc.	Ind	Acc.
Accuracy of breeding value		Accuracy of breeding value		Accuracy of breeding value		Accuracy of breeding value	
Birth direct (kg)		Birth direct (kg)		Birth direct (kg)		Birth direct (kg)	
Wean direct (kg)		Wean direct (kg)		Wean direct (kg)		Wean direct (kg)	
Wean maternal (kg)		Wean maternal (kg)		Wean maternal (kg)		Wean maternal (kg)	
Mature weight (kg)		Mature weight (kg)		Mature weight (kg)		Mature weight (kg)	
Scrotal circumference (mm)		Scrotal circumference (mm)		Scrotal circumference (mm)		Scrotal circumference (mm)	
Age in years and months		Age in years and months		Age in years and months		Age in years and months	
Average Wean Index		Average Wean Index		Average Wean Index		Average Wean Index	
Reproduction index		Reproduction index		Reproduction index		Reproduction index	
Age first calving		Age first calving		Age first calving		Age first calving	
Inter calving period		Inter calving period		Inter calving period		Inter calving period	
Weaning weight		Weaning weight		Weaning weight		Weaning weight	
Post wean		Post wean		Post wean		Post wean	
Wean weight ratio		Wean weight ratio		Wean weight ratio		Wean weight ratio	
Breeding value		Breeding value		Breeding value		Breeding value	
Registration value index		Registration value index		Registration value index		Registration value index	
Quantitative verification		Quantitative verification		Quantitative verification		Quantitative verification	
Year of registration		Year of registration		Year of registration		Year of registration	
Moderate government		Moderate government		Moderate government		Moderate government	
Beide goewere		Beide goewere		Beide goewere		Beide goewere	

Description of traits and breeding objectives

Sub-value		Description of trait		Objective		General guidelines for breeding value indices	
Calfing Ease		Birth weight (kg) of calf		Easy calving		Heavy	
Calf Growth		Weaning weight (kg) of calf		Heavy weaner		Light	
Milk		Milk production of cow/diagrams (kg)		Heavy milkers		Light	
Fertility		Age at first calving (days)		Fertile cows		Infertile	
Growth		Contribution of 12- and 18-month weights of bulls and heifers		Above average post-wean growth		Light	
		Mature weight		Average weight		Light	

Additional notes:

Breeding objectives depend on the environment in which the animals must perform. For example, intensive systems with a lot of food can support larger animals, while it is advised to select for animals with average size in extensive systems with less food. Darkly shaded areas indicate the generally accepted favourable range in which to select. Note that objectives sometimes fall outside this range.

Average with an asterisk (*) is 100 percent better than the average live animal in the breed. A high index for birth weight indicates a smaller (more favourable) calf.

Most animals in the breed (70%) are average and have an index between 90 and 110.

Traits are genetically correlated to each other. Selection for heavy weaner calves will lead to heavy mature animals (high maintenance requirements) and heavy birth weights (genetically difficult to break).

Milk breeding values must be in proportion to weaning weight. The cow must have enough milk to sustain her calf, and too low milk production is unfavourable.

[illegible]

	Calf	Milk	Fertility	Gest length	Care value	Surv	Bulls	Vacc.
	Concns	Wt milk	AFC	ICP	PW	Weight	Surv	In Vitro
EV	28	-14	9.0	2.4	-4	1.2	11	6.1
								41.72
								9.2
								12.65
								Emryo Claves
								0
								Tenets BMTS
AV	76	64	71	55	63	26	22	31
								48
								24
BY Ind	87	102	122	107	100	86	121	105
								116
								115
BY Ind	88	122	107	97	93			
								116

3 females design wnt Q1-18-2 THUNDER-18-BULL BULLET (Masses from given all CPH 13.
315 HOLESES, Masses from wnt)

CPR on body is under the protection of Society, that been control, but still results to be improved

[illegible]

	Colony Size	Cliff	Mass	Feeding	Core weight	Core volume	Shell	Ratio	Voices: B		
	Birds/D	Birds/M	W.M.M.	AFC	ICP	PW	Weight	Volume	Size	GRV	WVW
BY	~19	~60	~3	~3	~4	~2.1	~11.6	23.32	8.2	-	59.23
ACs	81	49	70	46	40	24	22	29	45	24	
BY vol	108	120	92	81	101	103	94	76	104		
BY vol	116	92	91	107		123		104		114	

Brooder: RUGER, a blue bird nest scale; Wings on double. Claws overlapping mid. 11 characters gone vol.

4th Nat. Observations: black legs on tail or 10 characters; then on CH 135131 HENKLES.

One on foot is under the protection of Sherry; has been screened; but still needs to be apparent.

[illegible]

Kid Genetik	Jahr	Mutter	Vergelichenes Vater	Kontrollgeb. Geb.	Kontrollmutter	Bld.	Aufzucht/ Zucht											
Geb.Dat.	Geb.M.	W.Dat.	W.Mat.	Oek.	TYP.	Maß	Größe	Vol.	Weiden	Sch.	ODV	SDV	In Video	Emilio Kollmer	Urn	M.H.	RHS	St.
7/1	59	9.9	2.4	-3	-6.9	13.7	13.8	47.9	-2.1	-	-	-	-	-	-	-	-	-
4/8	37	52	63	52	28	36	29	42	57	-	-	-	-	-	-	-	-	-
90	78	122	167	103	115	127	117	120	92	-	-	-	-	-	-	-	-	-
85	122	167	112	84	120	-	-	-	-	-	-	-	-	-	-	-	-	-

Thier Genetik: 7 Monate stüdtig von CPH 13-15 HERCULES OF FFL 12-18 BRANO

Kid aus York in ordnung: beständigt von Genetische spezies, nur noch trag geliebte wert:

[illegible]

	Carefree Ease	Growth	Milk	Fertility	Cow weight	Cow feed	Cow Value	BMI	Miles	Visc.
	Birth Ch	Birth M	W Milk	ICP	PW	W Milk	Value	Sur	ENR WWR	
BV	72	23	2.9	-11.6	-1.8	1	28.65	-4.2	-	In Vitro
Acc	79	71	4.3	4.3	6.5	3.3	4.2	3.7	-	Embryo Calves
BVind	86	89	97	123	144	110	99	83	114	87
BVind	83	87	143	111	117		114			

Greater Records: Acc: 2016-2017 and year var. JVC 17-06. Top bar use the percentage. CI 04-34
 MOONWATER

Call or text to find the location of Society has been scanned. Do not need to be applied.

[illegible][illegible]

Craving Data	Cal ^a	MIH	Fertility	Cow weight	Cow Value	But ^b	Rate	Vacc ^c
Born Ch. Birth Wt	Wt	Wt	PCP	PW	Weight	Value	Butt Wt	
75	9.2	6.4	15.1	2.2	10.1	15.7	36.04	4.1
63	7.2	5.9	5.0	20	1.8	3.2	4.8	2.2
89	8.3	120	122	81	91	119	112	105
92	120	122	89		80		112	

^a 4 Masson sheep van OT 18-24 BULLET. Washen van Q1 18-24 CANON. Dogen van OT 12-30
^b TAZON (van OT 18-24)
^c 18-24

Call on Bull is under the protection in Society, has been examined, but will remain to be appraised.

Kiel	Misc.	Vingstanoold	Koenging	Kool Vaste	Blaar
GEO OF GMS B	W BLN	WAL GRE	TPO	Nb SP Gewijs	Waarde
TW	.6	.38	0.4	-1.8	-5.6
AW	54	46	44	47	54
TW ind	85	118	92	106	104
TW ind	86	118	92	100	100

Tower Operating E-Masson-dogge van GFL 13-218 HERCULES of FL 13-46 PRANO

	Carrying Ease	Crill	Mk.	Formity	Core weight	Core Value	Rate	Ratio	Vacc. Spots, Linn, Mrt.A.
	Birth D.	Birth M.	W. D.	W. M.	AFC	ICP	FW	Mid	Embio. Cases
							Weight		In Vivo
IV	108	0	3.6	2.1	1.3	3.7	3.7	4	22.69
Ac	43	44	4.1	3.7	4.6	29	29	2.7	33
By Ind	101	87	104	106	96	84	106	80	102
By Ind	100	104	106	106	86	112	102	102	108

Breeder's Remark: Kormel's hinds weigh more evenly, his Maids drop as by 10's. It is

Call on foot to under the production of Scrovy, last hinds (excepted), but still needs to be improved.

[illegible]

	Carrier	Case	Cell	RNA	Family	Core weight	Core value	Ball	Ratio	Vote
	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN
AV	-24	-34	-4	-1.3	-2.6	-1	-0.4	-11.1	15.04	5.4
AV	75	49	59	46	40	24	22	28	43	24
AV	107	725	82	94	103	102	85	70	97	100
AV	117	82	94	185	128	97				

Carrier: 117, 82, 94, 185, 128, 97

Case: 75, 49, 59, 46, 40, 24, 22, 28, 43, 24

Cell: -24, -34, -4, -1.3, -2.6, -1, -0.4, -11.1, 15.04, 5.4

RNA: 107, 725, 82, 94, 103, 102, 85, 70, 97, 100

Family: 117, 82, 94, 185, 128, 97

Core weight: 75, 49, 59, 46, 40, 24, 22, 28, 43, 24

Core value: -24, -34, -4, -1.3, -2.6, -1, -0.4, -11.1, 15.04, 5.4

Ball: 107, 725, 82, 94, 103, 102, 85, 70, 97, 100

Ratio: 117, 82, 94, 185, 128, 97

Vote: 75, 49, 59, 46, 40, 24, 22, 28, 43, 24

[illegible][illegible][illegible]

	Catching Event	Catch Effort	Mean	Frequency	FCF	PM	Mean	Corr. Value	Bull	Ratio	Vict.
	Birth or Birth at	With	AUC	ICP	ICP	PM	Weight	Value	Sex	EXP. MARK	
50	94	69	17.1	-3	-15.2	-4.6	16.6	19.1	74.37	15.5	52.14
Avg	75	52	66	43	36	20	22	26	42		In Vivo
50	86	94	143	98	119	123	128	125	128	130	Embo Clavus
50	85	95	143	98	126	79		135			Testis B.M.B.

Unmarked Remains
 3 Males (Catching van 01 20-05 1962) 197 19-04 1963 Dogue van 0 12-02 1965
 (1963) 197 A 1960 1962)

Catch on foot is under the protection of (1962) (has been reported) (all will remain to be approved)

[illegible]

	Birth Date	Birth Sex	Age	Family	Cow weight	Milk	Cow value	Bull	Ratio	Value, -		
	W.D.	W.B.	A.F.C.	P.W.	Weight	Value	B.C.	ENR	W.M.			
BY	57	02	4.1	-1.2	-8.7	-5	5	7.5	23.14	3.9	-	45.24
62	76	52	7.1	47	38	20	22	30	44	26		
63	93	97	105	94	111	104	110	107	103	105		
And	92		105	94	112		92		103			

Breeder's Remarks: 7. Average earnings was OT 18.20 RUB PER OT 18.68 CUBIC METRE. Top was van
 MARCH 1934 CUBIC METRE on the homologous was OT 17.50 RUB PER OT

Cell in bold is under the probability of Society, has been awarded, but still needs to be organized.

	Kell/Gram	Kell	Meth	Von Braun	Kongruent	Kell/Waste	Bil.	Von Braun	Iron -
	Co. 10. 10. 10.	Co. 10. 10. 10.	Co. 10. 10. 10.	Co. 10. 10. 10.	Co. 10. 10. 10.	Co. 10. 10. 10.	Co. 10. 10. 10.	Co. 10. 10. 10.	Co. 10. 10. 10.
TV	3	13.7	4.3	-12.7	-5.8	14.5	76.84	17.1	53.52
AKK	75	54	89	47	38	20	24	43	38
TV	87	87	133	114	126	127	123	122	133
TV	82	133	114	126	127	123	122	133	133

	Calf	Mile	Fertility	Cow Weight	Cow Value	BLI	Ratio	Vacc.				
	Birth Date	Grav.	Wt Wd	Mod	ASP	ICP	PW	Mod	Value	BLI	Ratio	Vacc.
BY	-05	0	4	3.8	3	3.7	-8	2.5	0.85	6.5	-	-
Asa	50	45	39	42	41	25	42	29	34	69	-	Semen donor No toxic BAI TB, VBERII, VHROSHAR-FED
BY/Asa	104	97	94	112	99	84	57	98	94	110	-	-
BY/Asa	103	94	112	83				102		94	-	-

Breeder Remark: Long but real high potential.

Calf on foot is under the protection of Society, has been screened, but still needs to be approved.

