

**FACTS ON SIRE EVALUATION PROCEDURES APPLIED FOR
PRODUCTION TRAITS**

COUNTRY: THE NETHERLANDS	
Breed(s)	Black and White, Red and White
Trait(s) evaluated and unit(s) of measurement	Milk (kg), fat and protein (kg, %). Percentages are calculated from EBV for yields by: $BVP_i = (100 \cdot BVY_i - BVM \cdot MUP_i) / (BVM + MUM)$ where: BVP _i = EBV for fat,protein % BVY _i = EBV for fat,protein kg BVM = EBV for milk yield MUP _i = average adj. fat,protein % of the base animals MUM = average adjusted milk yield of the base animals
Number of lactations	3
Genetic parameters assumed	h^2 :yield = 0.30
Criteria for inclusion and extension of records	Official first, second and third 305 day lactation records with calving date in 1978 and onwards of official pedigree recorded cows are included. Lactation length \geq 60 days extended to 305 days
Sire categories evaluated	All sires
Environmental effects considered by pre-adjustment	Age (multiplicative), DO (multiplicative) and heterosis /recombination
by evaluation model	Herd*parity*year*season, year*month of calving
Base for age adjustment (months)	24 months
Use of genetic groups and/or relationships	Unknown parents are grouped by country or origin, selection path, breed and birth year/ All known relationship of cows with records with parents and grand parents is considered. For sires genetic relationships with their parents and grand parents is considered
Method of evaluation	ST BLUP repeatability AM
Expression of proof	EBV (kg, %)
Genetic (reference) base	Stepwise fixed base as the average EBV of daughters of young bulls (bulls which had a first official proof based on progeny in 1988). Two bases are used, which is according to breeding goal rather than breeds (dairy vs. dual purpose). Dairy: Daughters with at least 51% HF genes of Black and White young bulls in 1988. Dual purpose: Daughters with at least 51% MRV genes of Red and White young bulls in 1988.

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Criteria for official publication of sire proofs	REL \geq 0.50, 15 daughters in 5 herds
Number of evaluations/publications per year	2/2 (april, october)
Use of production index	Net Profit Index (in Dutch guilders): -0.15*EBV milk+ 2*EBV fat kg+ 12*EBV protein kg
Name, address and faxnumber of organization responsible for sire evaluation and publication	Royal Dutch Cattle Syndicate P.O. Box 454 6800 AL Arnhem The Netherlands Tel: +31-85-861111 Fax: +31-85-861520
Key references on methodology applied	

COUNTRY: THE NETHERLANDS

Number of AI bulls (NB) tested, means (X) and standard deviations (SD) of proofs (kg) from most recent run, by bull's year of birth (YB) and breed

		Milk		Fat		Protein		Fat %		Protein %	
YB	NB	X	SD	X	SD	X	SD	X	SD	X	SD
Breed:		Black and White									
1978	314	-472	422	-23.9	16.5	-14.4	11.7	-0.05	0.19	0.03	0.11
1979	326	-382	448	-18.4	17.7	-11.7	12.5	-0.02	0.25	0.03	0.12
1980	356	-222	477	-9.5	19.3	-6.3	13.2	0.02	0.29	0.03	0.13
1981	377	-79	456	-1.9	18.8	-1.3	12.8	0.04	0.28	0.03	0.13
1982	424	0	473	4.7	19.5	1.5	12.9	0.10	0.30	0.03	0.14
1983	354	145	477	9.8	18.3	6.1	13.3	0.07	0.32	0.03	0.14
1984	361	160	494	13.3	18.3	8.8	12.8	0.13	0.35	0.07	0.15
1985	368	300	465	16.4	17.2	12.1	13.0	0.07	0.31	0.04	0.12
1986	337	456	514	21.8	17.0	17.6	13.5	0.05	0.35	0.05	0.13
1987	302	752	500	30.5	19.5	24.3	13.5	-0.03	0.29	-0.00	0.11
1988	120	814	323	27.3	13.0	25.2	9.3	-0.12	0.20	-0.03	0.08
Breed:		Red and White									
1978	153	-96	304	-10.0	11.7	-5.3	10.0	-0.12	0.16	-0.04	0.11
1979	173	-93	321	-9.3	12.0	-5.1	10.1	-0.11	0.17	-0.04	0.11
1980	161	-122	361	-7.9	15.6	-5.1	11.7	-0.05	0.17	-0.02	0.11
1981	164	-1	338	-3.3	12.6	-0.7	10.3	-0.06	0.19	-0.01	0.11
1982	188	86	345	3.9	15.3	2.7	11.1	0.08	0.21	-0.03	0.11
1983	184	128	417	6.0	17.1	4.0	12.5	0.02	0.19	-0.00	0.10
1984	137	107	382	5.0	14.4	4.8	11.5	0.01	0.17	0.03	0.11

COUNTRY: THE NETHERLANDS											
Number of AI bulls (NB) tested, means (X) and standard deviations (SD) of proofs (kg) from most recent run, by bull's year of birth (YB) and breed											
		Milk		Fat		Protein		Fat %		Protein %	
YB	NB	X	SD	X	SD	X	SD	X	SD	X	SD
1985	97	219	421	10.5	18.0	7.3	12.6	0.03	0.22	-0.00	0.11
1986	72	428	417	22.4	20.2	14.2	12.7	0.08	0.27	-0.01	0.14
1987	57	505	414	24.2	15.7	16.9	13.2	0.05	0.19	-0.02	0.08
1988	10	548	229	22.5	11.3	19.1	8.2	-0.02	0.15	-0.00	0.07

COUNTRY: THE NETHERLANDS					
Average of adjusted production records (kg) included in the most recent evaluation run, by daughters' year of birth (YB) and breed					
YB	Milk	Fat	Protein	Fat %	Protein %
Breed:	Black and White				
1978	4596	191	154	4.15	3.34
1979	4589	197	157	4.21	3.35
1980	4778	201	159	4.21	3.33
1981	4754	202	159	4.25	3.34
1982	4852	208	163	4.28	3.37
1983	5221	227	176	4.34	3.37
1984	5498	244	186	4.43	3.38
1985	5500	245	186	4.45	3.38
1986	5583	250	192	4.48	3.45
1987	5764	259	200	4.50	3.47
1988	5917	266	205	4.49	3.46
Breed:	Dual Purpose/MRY				
1978	4377	175	148	4.00	3.39
1979	4404	178	150	4.04	3.40
1980	4465	180	151	4.03	3.38
1981	4357	178	149	4.09	3.42
1982	4432	182	153	4.11	3.45
1983	4777	201	166	4.20	3.48
1984	4951	212	172	4.27	3.48
1985	4980	213	173	4.27	3.47
1986	5219	226	183	4.32	3.50
1987	5392	236	189	4.38	3.51
1988	5366	238	190	4.44	3.54