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October 2029

 **SA** STAMBOEK  
STUD BOOK  
'n Storie met twee kante

# HOLSTEIN-FRIESLAND GENOMIC BREEDING VALUE REPORT

**June 2026**

Owner: CAIRNBROGIE ESTATES

Herd Number: 494333



# Introduction

## Genomic EBVs (GEBVs)



SA Stud Book strives to stay abreast of the latest scientific and technological developments. Genomically Enhanced Breeding Values (GEBVs) are therefore predicted for the SA Friesland breed, where genomic data are also included as a source of information in the genetic evaluation. Animals that were genotyped through SA Stud Book's Genomic Selection Service, are indicated by the accompanying logo in the Report. A representative reference population is available for the breed, which is essential to establish the relationship between SNP markers and breeding values. If a young animal has been genotyped, more information is available for estimation of its breeding values and the breeding values are estimated more reliably, especially those of complex traits like fertility and longevity. These GEBVs are therefore based on the expression of genes in the SA environment and population and built on the breed's own genetic parameters and variation, taking all measurements and pedigree information of both parental lines into account and is the most accurate and relevant information that selection decisions can be based on.



Another benefit of genomic analyses is the accurate verification of parentages, based on more than 50 000 SNP markers. If both the animal and parent have genomic tests, parentage as recorded on Logix, can be verified. The top block refers to the sire and the bottom block to the dam of the animal. This is indicated as follows in the Report:

- ☐ Parent does not have a genomic test. Parentage is not verified.
- ☒ Both animal and parent have genomic tests, and the parentage is verified.
- ☒ The genomic test indicates that there is a conflict in the parentage, *i.e.* the parentage is not correct.

Possible reasons:

1. The parentage was incorrectly recorded on Logix. Genomic information can be applied to indicate the correct parent, if that parent had also been genotyped. If the breeder of the animal can confirm that the suggested parent was also on the farm/ semen of bull was also used at the time of mating, the breeder should correct the parentage *via* the Breed Society on Logix.
2. The wrong biological sample was submitted for the genomic test. (Please ensure that biological samples are collected and labelled correctly, as the genomic test is very precise). In this case, the test should be repeated.

In the Genomic Evaluation relationships amongst the animals are adjusted according to the genomic information. It is therefore the breeder's responsibility to correct conflicting pedigree

information on Logix. The effect of correction of parentages on the estimation of breeding values, range from mild to drastic. If the correct and conflicting parents are, for example, closely related, the effect could be minimal. Similarly the effect will be minimal when the animal already has EBVs of high accuracy, *i.e.* has many measured progeny that contributed to the estimation of its breeding values, as is the case with most of the animals tested up to date. However, if the correct and conflicting parents differ genetically, or the animal is still young (its breeding values are mostly determined by its parent average), the effect could be much larger. It is in the interest of the breeder, the breed and the genomic programme to have correct recorded parentages as far as possible. For any questions – and if you would like to know if the genomic test indicated another parent – please contact Dr Bernice Mostert at [bernice@studbook.co.za](mailto:bernice@studbook.co.za).

## MACE Breeding Values

Young foreign AI-bulls' MACE (international) breeding values are still blended with their SA EBVs until the reliability of the bulls' EBVs, based on their SA daughters, reach 80%. Thereafter their EBVs are based solely on their SA daughters' information (measurements and genotypes). EBVs of young SA bulls that do not have daughter information, as well as those of heifers, are also based on their AI-sires' MACE EBVs.

### Abbreviations

|     |                        |
|-----|------------------------|
| EFI | Efficiency Index       |
| ICP | Intercalving Period    |
| LMI | Logix Merit Index      |
| LPI | Logix Production Index |
| BWI | Body Weight Index      |

## Inclusion of Data

### Age restrictions

Lac1 : 18 – 42 mths  
Lac2: 30 – 54 mths  
Lac3: 40 – 67mths

### Production restrictions

Milk : 2.5 -90kg  
BF% : 2 – 9%  
Prot% : 2 – 6%

### Test-day Records

1st test within 70 days after calving  
No interval longer than 100 days  
Only 1 interval between 75 and 100 days

At least one parent should be known

At least three tests for a lactation before lactation is included in the evaluation

Use [www.sadairybulls.com](http://www.sadairybulls.com), SA Stud Book's search engine, to view genetic profiles of specific bulls or groups of bulls. All (G)EBVs are expressed on the SA base, which is directly comparable to the (G)EBVs of your herd.

# Breeding Values and Selection Indices

## Milk, Butterfat and Protein Production

EBVs for these traits enable breeders to increase the milk, butterfat and protein yields of their herds by identifying high potential cows and heifers to stay in the herd, while low potential cows and heifers can be sold/culled. Selection on production traits alone, however, results in a decline in solid percentages, fertility and longevity, while resistance to mastitis will also deteriorate.

## Butterfat and Protein Percentages

EBVs for the percentage traits indicate the amount of butterfat or protein relative to that of milk. Never select on percentage EBVs alone, as high percentage EBVs might also be due to low milk volumes. The percentage of solids in the herd can be increased by selecting for higher butterfat and protein EBVs, while keeping the genetic level of milk production constant.

## Somatic Cell Score

Low EBVs for Somatic Cell Score are an indication of a cow's genetic ability to resist infections, eg. mastitis. These breeding values are expressed as a score on the logarithmic scale. Smaller EBVs are therefore desirable.

## Calving Interval

EBVs indicate how much longer (positive EBVs) or shorter (negative EBVs) the cow's calving interval is in comparison to the average of the base cows. A penalization is also applied in the genetic evaluation for cows with prolonged lactations without subsequent calving dates, therefore cows that struggles to become pregnant. Smaller EBVs are desirable and indicates more fertile animals.

## Functional Herd Life

EBVs for Functional Herd Life are expressed as relative indices with average the average of the base cows set to 100 and a standard deviation of 12. Animals with EBVs of 112 are therefore 1 standard deviation unit above the average, while EBVs of 76 are 2 standard deviation units below the average. These EBVs are based on the survival of cows up to the 4<sup>th</sup> calving.

## Selection Indices

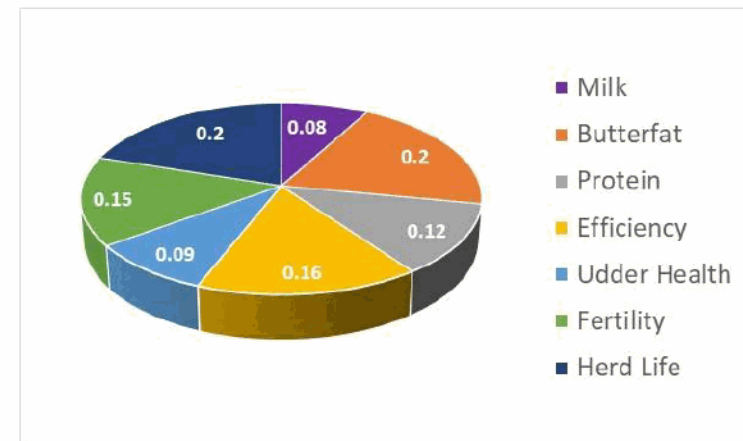
To simplify the selection of animals, the different EBVs are combined into a selection index, i.e. the Logix Merit Index, where Production, Efficiency, Udder Health, Fertility and Longevity

are combined in optimal proportions to address the strong and weak aspects of the breed. This will ensure sustainability of genetic progress as balanced breeding is promoted.

The relevant indices are constructed as follows:

- $LMI = 0.08 \text{ Milk} + 0.20 \text{ Bfat} + 0.12 \text{ Prot} + 0.16 \text{ Efficiency} + 0.09 \text{ Udder Health} + 0.15 \text{ Fertility} + 0.20 \text{ HerdLife}$
- $\text{Efficiency Index (EFI)} = 0.15 \text{ Milk} + 0.3 \text{ Bfat} + 0.2 \text{ Prot} + 0.12 \text{ Density} - 0.23 \text{ Body Weight}$
- $\text{Density} = -(\text{Milk EBV} - ((\text{Bfat EBV} + \text{Prot EBV})/0.032))$
- $\text{Logix Production Index (LPI)} = 0.2 * \text{Milk} + 0.5 * \text{Butterfat (kg)} + 0.3 * \text{Protein (kg)}$

Construction of the LMI



The LMI and LPI are expressed around 100 (average of base year), with standard deviation = 12. A LMI of 88 is therefore 1 standard deviation below the average, while a LMI of 118 is 1.5 standard deviations above the average of the breed.

*The data used in this evaluation has been obtained from LOGIX as well as the ARC, as supplied by breeders. Everything possible had been done to present the information correctly. SA Stud Book does not take any responsibility for the use and interpretation of the information from this publication.*

## SINGLE GENE TRAITS

Genes mutate or change. The most common form of a gene, is called the original gene or 'wild type'. Some genes have many different variants, but an animal can only have 2 of the variants, as one copy is received from the sire and the other from the dam. These genes can be the same variant (homozygous), or different variants (heterozygous).

If the animal is heterozygous, one gene may dominate (animals with a polled gene and a horned gene will be polled because polled is dominant).

Traits are rarely 100% influenced by a single gene; there are usually interactions with other genes that may (slightly) alter the trait.

### Breed Fraction

Indication of the animal's breed purity with regards to 12 bovine breeds that are genotyped in South Africa.

### % Homozygosity

Percentage markers (SNPs) that are similar as received from the parents and therefore an indication of genetic diversity.

### Polled and Horned (Celtic and Friesian)

The polled gene is dominant. Only HH animals will therefore have horns.

- PcPc: The animal breeds pure for polled. This means that the animal received a polled gene from both its parents and can only transmit the polled gene to its offspring.
- PcH: The animal is polled, but carries the horn gene, because the polled gene (Pc) is dominant over the horn gene (H). It can transmit either a polled or horned gene to its offspring.
- HH: The animal breeds pure for horns. It can only transmit horn genes to its offspring.
- The exact inheritance of 'Scurs' is still unknown.

### ABCG2

An additive gene lowering milk fat (kg and %) and increase milk volume.

### DGAT1

A gene that increase butterfat production and butterfat- and protein percentages, while decreasing milk- and protein production.

### Beta-Casein composition of milk

Several variants of the gene for beta-casein in milk exists. The most common are the A1- and A2-variants, which are co-dominant. For pure A1-milk the cow therefore has to be A1A1, and for A2-milk she has to be A2A2, with similar quantities of A1- and A2-milk being produced by cows having the heterozygous genotype (A1A2). The A1-variant is associated with higher butterfat- and protein percentages, while the A2-variant has a positive impact on milk- and protein production and is considered to be more healthy. Other variants of the gene are A3, B, C, D, E, F,G,H1, H2 and I, which are rarer.

### Kappa-Casein composition of milk

Important in the production of cheese. It forms about 13% of the protein in milk. and influences milk clotting and cheese yield as it is a stabilizing factor that determines how well and fast the milk coagulates. Two different forms of Kappa-Casein are tested for, with 3 different genotypes that can therefore occur depending on the variants that were carried over by the parents: AA, AB or BB. These genotypes produce different forms of Kappa-Casein in the milk which influences the quality of the cheese. Cows with BB-genotypes produce milk with higher levels of fat and protein that clots more quickly and produce the highest cheese yield and is therefore the most desired genotype.

### Beta-Lactoglobulin (LGB)

Associated with traits of economical importance relevant to milk composition, quality, yield as well as cheese production. LGB represents around 50% of whey protein and 12% of total milk prot of dairy cows. BB-genotypes are associated with milk quality (solids), while AA-genotypes are associated with milk production.

### Yellow Milk Fat Variant

A recessive gene, which increase  $\beta$ -carotene, a precursor of Vit A, in milk and results in yellow colouring of the milk.

### BLAD (Bovine Leukocyte Adhesion Deficiency)

An unwanted, recessive gene where affected calves often have severe ulcers in the mouth, teeth loss, chronic pneumonia and diarrhoea. Death often occurs at a young age due to infections.

### Citrullinaemia (CT)

A lethal recessive gene where affected calves are born normal, but become depressed within 24 hours. In 3-5 days they develop tongue protrusion, unsteady gait, wander aimlessly, froth at the mouth, develop convulsions and die.

### DUMPS (Deficiency of Uridine Monophosphate Synthase)

A lethal, recessive gene where affected calves are aborted around day 40 of pregnancy. The affected embryos are often resorbed during the first 2 months of gestation, leading to more services per calving and longer than normal icps.

### Mule Foot (Syndactyly)

An unwanted recessive gene causing fusion of the cloven hoof. Affected cattle can have 1-4 fused hooves, show varying degrees of lameness, have a high-step gait and may walk slowly.

### Holstein Haplotypes (1, 3, 4 and 5)

Lethal recessive genes where calves, homozygous for the mutation, are aborted early in gestation. Mating of two carriers will have a 25% probability to produce lethal progeny.

### Important Information

SA Stud Book and/or the LOGIX system distance itself from any errors which are beyond its control and cannot be held liable for any such errors. SA Stud Book and the LOGIX system only publishes the information at its disposal and assumes that sampling on the farm, handling of the samples and the actions in the laboratory were performed correctly.

# Genetic Windows

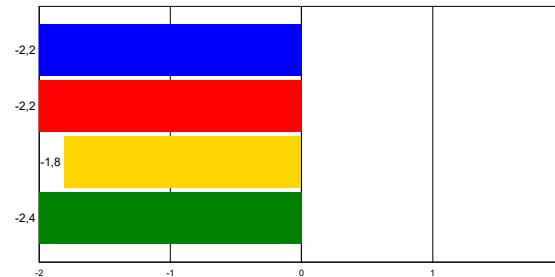
**Base Year: 2020**

## Interpretation:

1. Genetic Windows indicate the average of the active animals in the herd relative to the average of the breed.
2. The average of all the active animals in the breed (cows, heifers and bulls) is set as zero and the deviation of the herd's cows, heifers, sires of cows and sires of heifers from the breed average are expressed in standard deviation units (SDU).
3. This means that approximately 67% of the animals will lie within -1 and +1 SDU from the average, 95% between -2 and +2 SDU and 99% between -3 and +3 SDU because EBV's are normally distributed.
4. Example: If the average of the cows of the herd's Production (combination of milk, butter fat and protein) is -0.5, it means that the active cows of the herd is half an SDU below the average of the breed.
5. Example: If the average Fertility of the sires of the active cows in the herd is 1.0, the ICP of the bulls used in the herd is 1 SDU lower (better) than the breed average.
6. It is more favourable for Weight of the animals to be below breed average.
7. Deviations from the average can be inaccurate if the number of animals on which it is based is low.

## Measured Cows

### Selection Indices



Logix Merit Index)

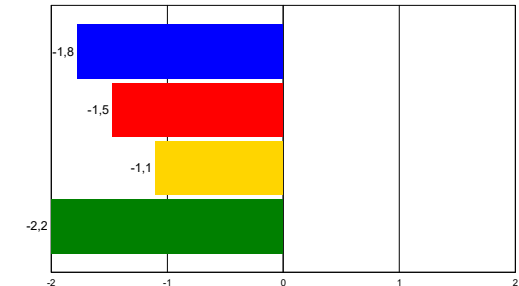
Production

Efficiency

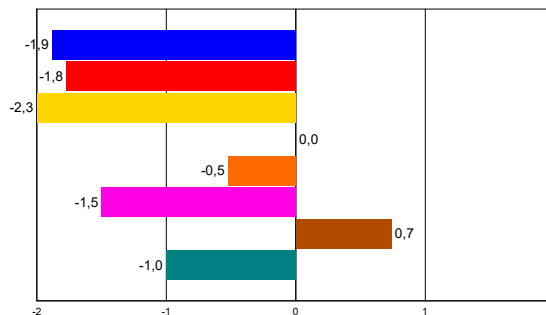
Weight

## Sires of Cows

### Selection Indices



### Production and other Traits



Milk

Butterfat

Protein

BFat%

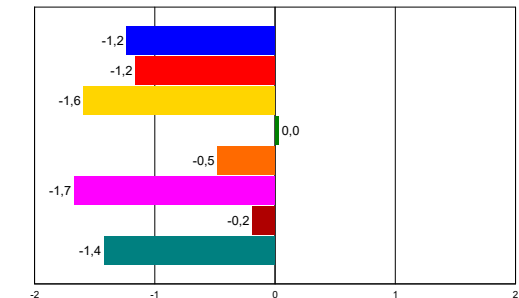
Prot%

Udder Health

Fertility

Herd Life

### Production and other Traits



## VERY IMPORTANT

**Udder Health** : Higher values, lower SSC, better health

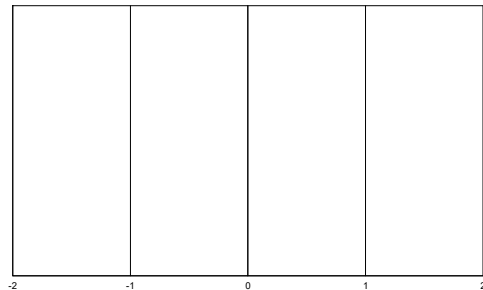
**Fertility** : Higher values, lower ICP, better fertility

**Body Weight** : Higher values, heavier animals

# Genetic Windows

## Heifers

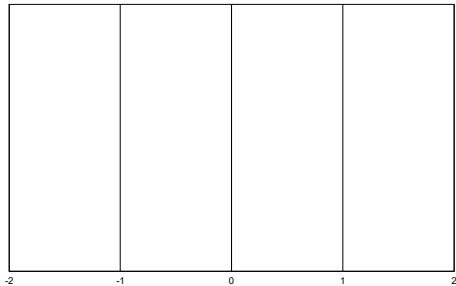
Selection Indices



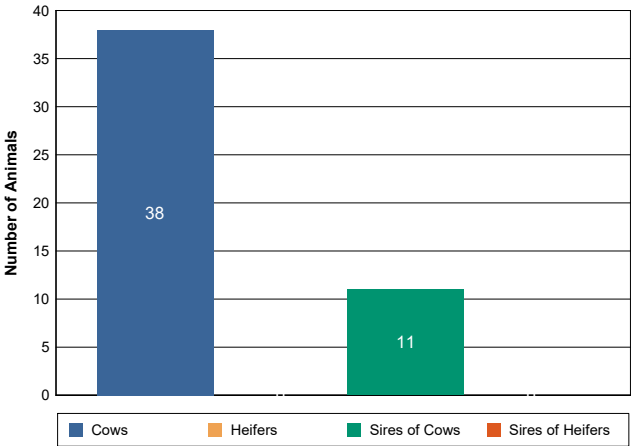
Logix Merit Index  
Production  
Efficiency  
Weight

## Sires of Heifers

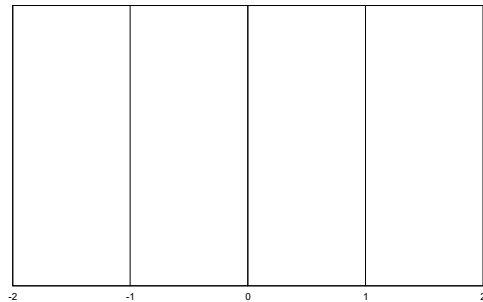
Selection Indices



## Number of Cows, Heifers and Sires

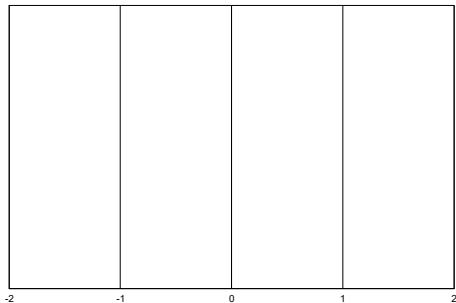


## Production and other Traits



Milk  
Butterfat  
Protein  
BFat%  
Prot%  
Udder Health  
Fertility  
Herd Life

## Production and other Traits



## Number of Cows per Age Group

| Heifers | Lac 1 | Lac 2 | Lac 3 | Lac 4+ |
|---------|-------|-------|-------|--------|
| Number  |       |       |       |        |

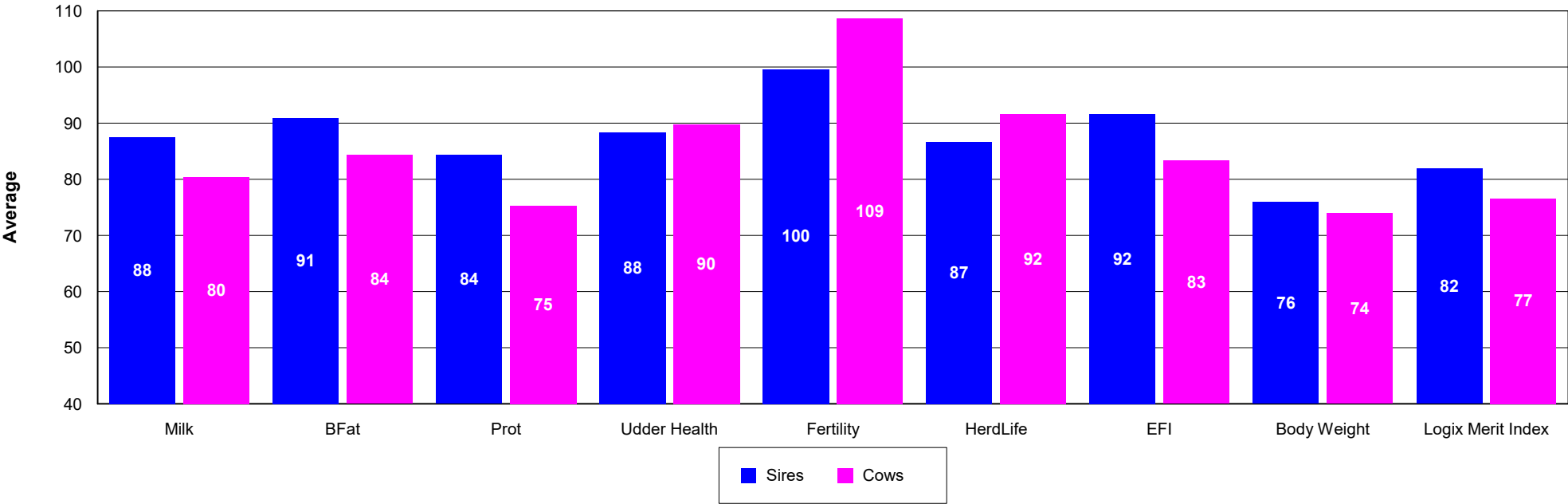
# GENETIC RANKING OF THE HERD WITHIN THE ACTIVE BREED

The green blocks indicate where the specific herd ranks within the active population for every trait and selection index.

| Trait        | Top 5% | 10%    | 15%    | 20%    | 25%    | 30%    | 35%    | 40%    | 45%    | 50%    | 55%    | 60%    | 65%     | 70%     | 75%     | 80%     | 85%     | 90%     | Bottom 95% |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|------------|
| <b>Melk</b>  | 706.15 | 561.32 | 460.88 | 379.00 | 303.32 | 236.40 | 177.00 | 122.00 | 68.93  | 16.88  | -35.01 | -86.00 | -137.00 | -187.34 | -246.00 | -314.68 | -388.00 | -494.00 | -622.00    |
| <b>BVet</b>  | 34.10  | 27.90  | 23.80  | 20.20  | 17.30  | 14.40  | 11.90  | 9.40   | 6.90   | 4.90   | 2.60   | 0.20   | -1.90   | -4.00   | -6.30   | -9.20   | -12.10  | -17.00  | -22.50     |
| <b>Prot</b>  | 24.70  | 20.80  | 18.10  | 15.70  | 13.60  | 11.60  | 9.70   | 7.60   | 5.70   | 3.70   | 1.90   | 0.20   | -1.30   | -2.90   | -4.60   | -6.60   | -9.00   | -12.40  | -17.30     |
| <b>BV%</b>   | 0.31   | 0.24   | 0.20   | 0.17   | 0.14   | 0.12   | 0.10   | 0.08   | 0.06   | 0.04   | 0.03   | 0.01   | -0.01   | -0.03   | -0.05   | -0.08   | -0.12   | -0.16   | -0.24      |
| <b>Prot%</b> | 0.14   | 0.11   | 0.09   | 0.08   | 0.07   | 0.06   | 0.05   | 0.04   | 0.04   | 0.03   | 0.03   | 0.02   | 0.01    | 0.00    | -0.01   | -0.02   | -0.03   | -0.05   | -0.08      |
| <b>SCS</b>   | -20.11 | -15.96 | -13.23 | -11.24 | -9.43  | -7.91  | -6.53  | -5.29  | -4.04  | -2.79  | -1.59  | -0.37  | 0.87    | 2.15    | 3.60    | 5.14    | 6.70    | 9.56    | 14.17      |
| <b>TKP</b>   | -8.70  | -6.90  | -5.80  | -4.80  | -4.10  | -3.40  | -2.70  | -2.10  | -1.50  | -0.90  | -0.30  | 0.30   | 1.00    | 1.70    | 2.40    | 3.30    | 4.20    | 5.40    | 7.10       |
| <b>HLife</b> | 124.00 | 120.00 | 116.00 | 114.00 | 111.00 | 108.00 | 106.00 | 104.00 | 103.00 | 101.00 | 100.00 | 99.00  | 98.00   | 97.00   | 95.00   | 94.00   | 93.00   | 90.00   | 87.00      |
| <b>SIZE</b>  | 113.60 | 109.40 | 106.90 | 104.80 | 103.60 | 102.30 | 101.10 | 100.10 | 99.20  | 98.30  | 97.50  | 96.50  | 95.50   | 94.40   | 93.00   | 91.50   | 89.30   | 86.80   | 82.00      |
| <b>DTI</b>   | 123.20 | 119.60 | 117.10 | 115.00 | 113.00 | 111.00 | 109.20 | 107.40 | 105.60 | 104.10 | 102.30 | 101.00 | 99.50   | 97.90   | 96.60   | 94.90   | 93.10   | 90.00   | 85.10      |
| <b>LMI</b>   | 126.80 | 122.90 | 119.70 | 117.10 | 114.70 | 112.30 | 110.20 | 108.10 | 106.10 | 104.10 | 102.20 | 100.70 | 99.00   | 97.50   | 95.90   | 94.20   | 92.30   | 89.60   | 84.20      |

# Holstein-Friesland

Average Genetic Levels of the Herd



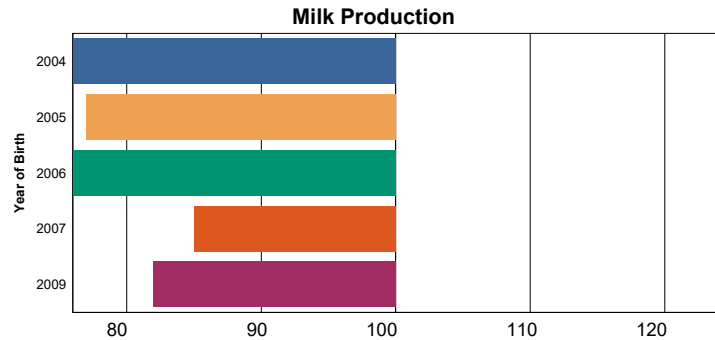
# Holstein-Friesland

## Genetic Averages of Active Cows per Lactation Group

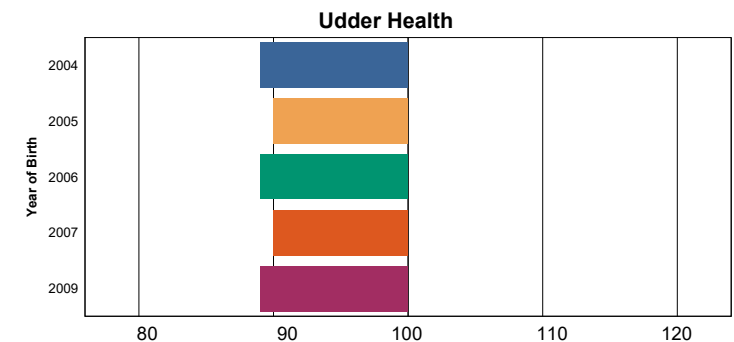
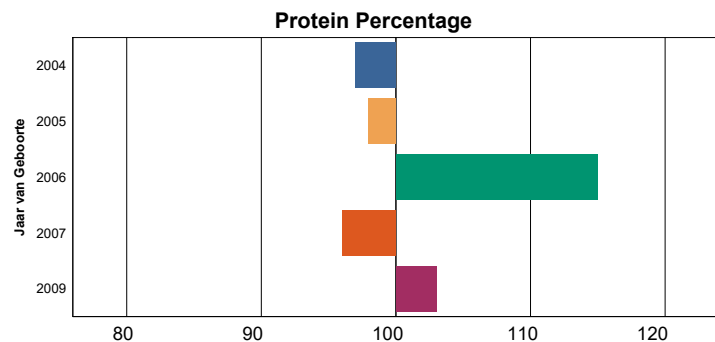
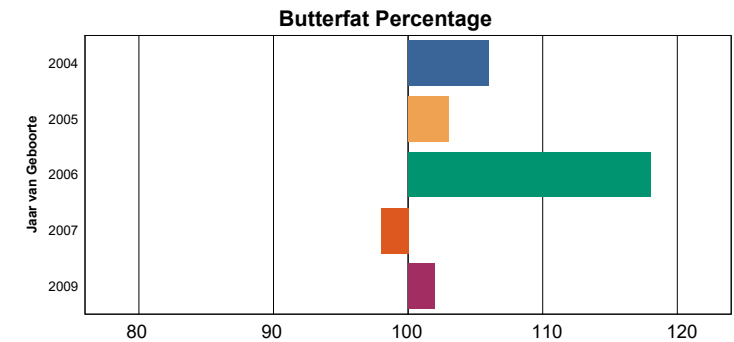
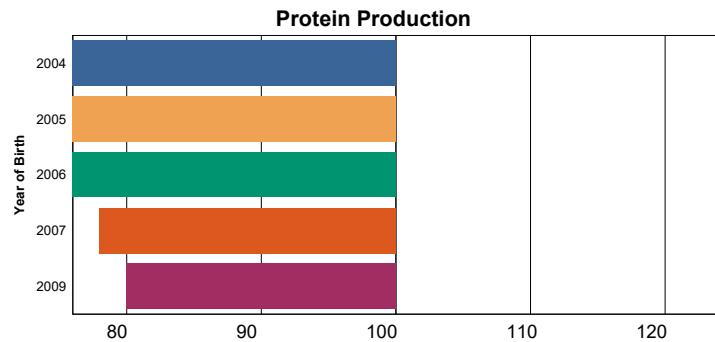
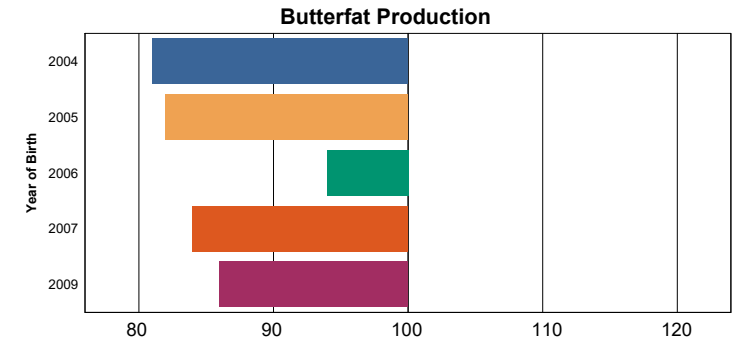
| Trait     | Heifers |       | Lactation 1 |       | Lactation 2 |       | Lactation 3 |       | Lactation 4+ |       |
|-----------|---------|-------|-------------|-------|-------------|-------|-------------|-------|--------------|-------|
|           | Herd    | Breed | Herd        | Breed | Herd        | Breed | Herd        | Breed | Herd         | Breed |
| Milk      |         | 102,9 | 88,0        | 102,7 | 82,5        | 102,6 | 85,0        | 101,9 | 79,7         | 101,3 |
| Butterfat |         | 106,9 | 82,0        | 107,0 | 83,0        | 104,8 | 85,7        | 103,3 | 84,3         | 102,6 |
| Protein   |         | 108,5 | 81,0        | 106,5 | 82,5        | 105,6 | 80,0        | 104,3 | 74,3         | 103,2 |
| BF%       |         | 103,2 | 94,0        | 102,6 | 99,5        | 101,0 | 99,3        | 100,6 | 102,8        | 100,7 |
| Prot%     |         | 106,4 | 94,0        | 104,2 | 106,5       | 103,2 | 97,7        | 102,5 | 99,3         | 102,0 |
| UdHealth  |         | 104,1 | 87,0        | 96,6  | 92,3        | 94,9  | 82,3        | 93,3  | 90,4         | 91,9  |
| Fertility |         | 100,7 | 101,0       | 100,4 | 113,5       | 99,4  | 102,0       | 99,3  | 109,3        | 100,8 |
| HerdLife  |         | 107,3 | 70,0        | 101,2 | 88,0        | 101,1 | 86,7        | 102,9 | 93,0         | 105,0 |
| BWC       |         | 99,7  | 84,6        | 101,8 | 67,9        | 101,2 | 74,4        | 100,5 | 73,8         | 99,6  |
| EFI       |         | 108,6 | 81,8        | 101,0 | 86,5        | 100,7 | 86,3        | 100,4 | 82,9         | 99,9  |
| LMI       |         | 110,5 | 70,4        | 101,5 | 79,2        | 100,9 | 75,5        | 100,2 | 76,8         | 99,4  |

# Holstein-Friesland

## Average Performance of Active Cows per Year of Birth

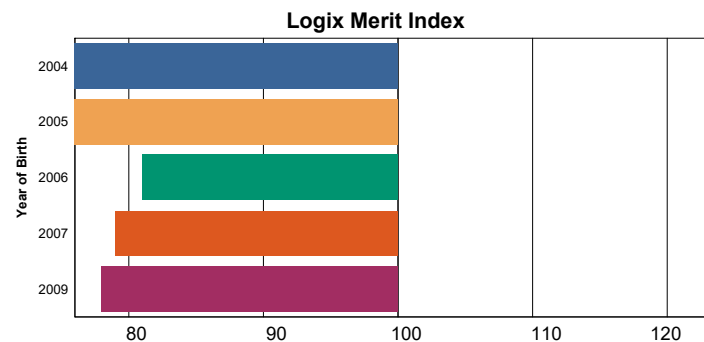
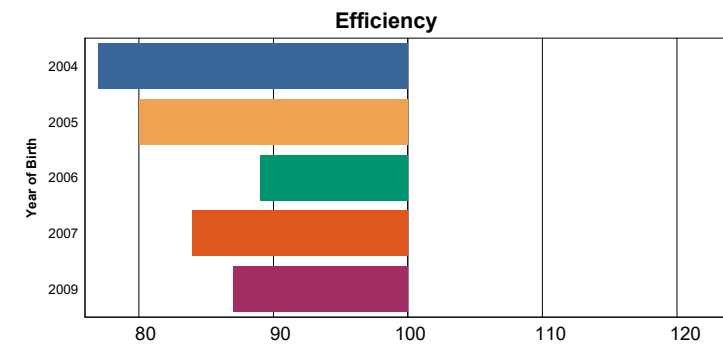
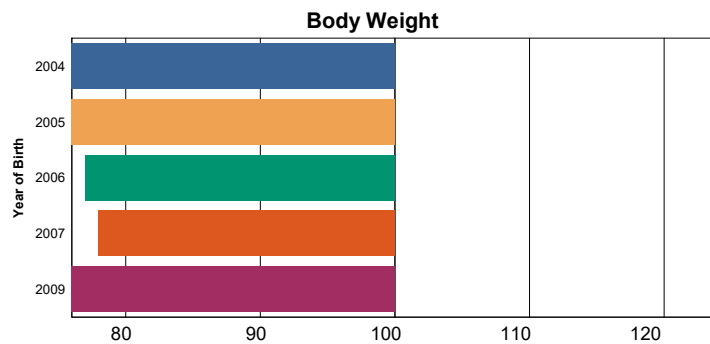
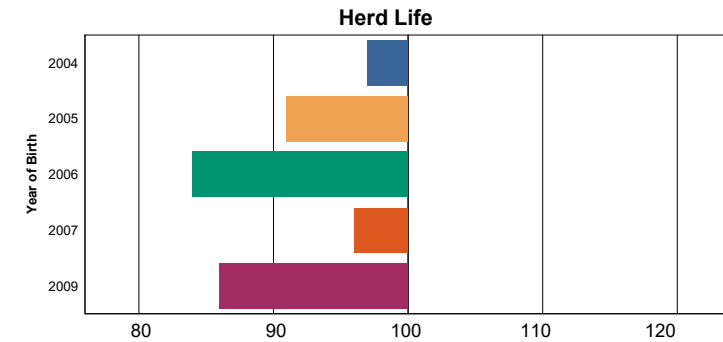
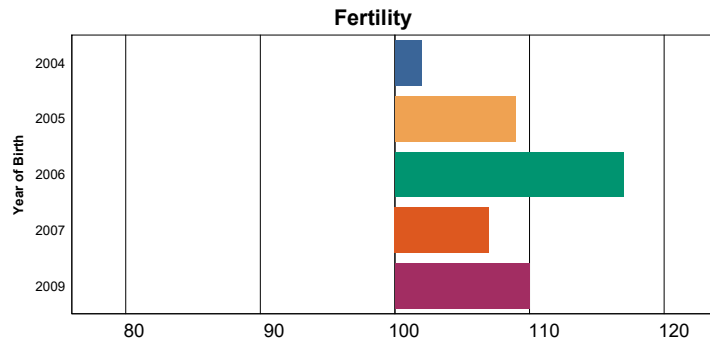


| Year of Birth | Number |
|---------------|--------|
| 2004          | 3      |
| 2005          | 10     |
| 2006          | 2      |
| 2007          | 13     |
| 2009          | 10     |



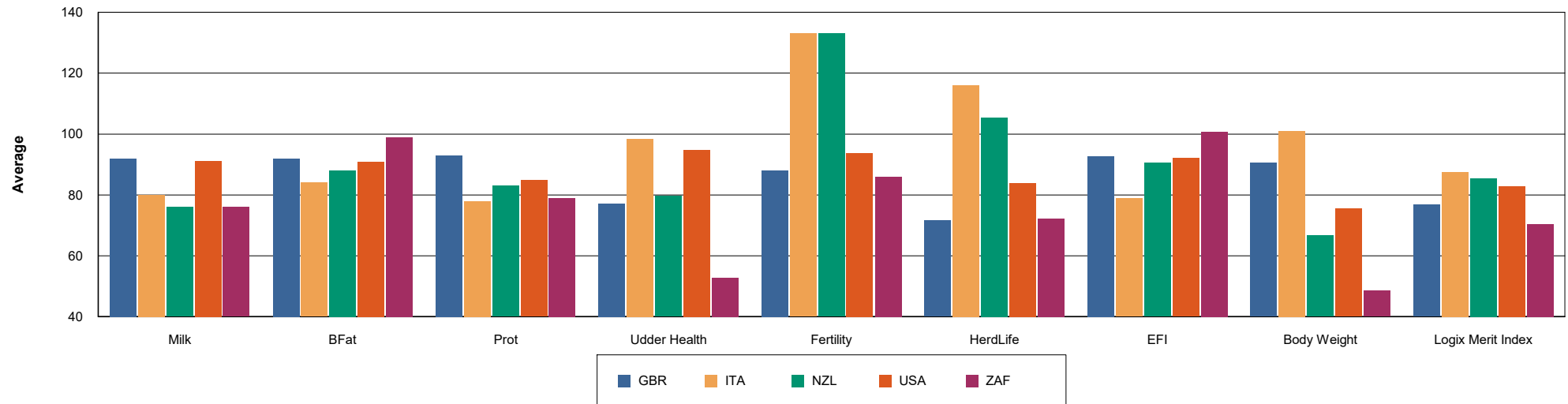
# Holstein-Friesland

## Average Performance of Active Cows per Year of Birth



# Holstein-Friesland

**Average Genetic Levels of Sires per Country of Origin**



**Number of Sires and Daughters per Country of Sire**

| Country | Nr Sires | Nr Daughters |
|---------|----------|--------------|
| GBR     | 1        | 3            |
| ITA     | 1        | 2            |
| NZL     | 1        | 3            |
| USA     | 7        | 24           |
| ZAF     | 1        | 6            |

# Holstein-Friesland

## Genetic levels of Cows and Heifers

| Trait                            | Cows & Heifers |       | Cows  |       | Heifers |       |
|----------------------------------|----------------|-------|-------|-------|---------|-------|
|                                  | Herd           | Breed | Herd  | Breed | Herd    | Breed |
| Nr of Animals                    | 38             | 13232 | 38    | 7196  | 0       | 6036  |
| Avg Inbreeding                   | 3.96           | 8.73  | 3.96  | 8.09  |         | 9.49  |
| > 6.25% Inbred                   |                | 11542 |       | 5680  |         | 5862  |
| Estimated Breeding Values (EBVs) |                |       |       |       |         |       |
| Milk                             | -752           | 26    | -752  | -48   |         | 113   |
| Butterfat                        | -26.2          | 5.2   | -26.2 | 0.2   |         | 11.2  |
| Protein                          | -25.7          | 4.1   | -25.7 | 0.2   |         | 8.6   |
| Butterfat %                      | 0.04           | 0.04  | 0.04  | 0.02  |         | 0.06  |
| Protein %                        | 0.00           | 0.03  | 0.00  | 0.02  |         | 0.05  |
| Udder Health                     | 90             | 102   | 90    | 101   |         | 104   |
| Calving Interval                 | -4.6           | -0.8  | -4.6  | -1.2  |         | -0.4  |
| Herd Life                        | 92             | 103   | 92    | 100   |         | 107   |
| Selection Indices                |                |       |       |       |         |       |
| LMI                              | 77             | 105   | 77    | 101   |         | 111   |
| Efficiency (EFI)                 | -1.39          | 0.37  | -1.39 | 0.08  |         | 0.72  |
| Prod (LPI)                       | 77             | 104   | 77    | 100   |         | 108   |
| Body Weight                      | -2.18          | -0.15 | -2.18 | -0.26 |         | -0.02 |

The average breeding values and indices of cows and heifers currently in the herd and breed as on 2026/06/10

## Genetic Levels of Sires

| Trait                            | Sires |       |
|----------------------------------|-------|-------|
|                                  | Herd  | Breed |
| Nr Bulls                         | 11    | 481   |
| Avg Inbreeding                   | 6.10  | 9.41  |
| > 6.25% inbred                   | 6     | 410   |
| Estimated Breeding Values (EBVs) |       |       |
| Milk                             | -482  | 166   |
| Butterfat                        | -15.3 | 11.1  |
| Protein                          | -16.4 | 9.3   |
| Butterfat %                      | 0.05  | 0.04  |
| Protein %                        | 0.00  | 0.04  |
| Udder Health                     | 88    | 104   |
| Calving Interval                 | 0.2   | 0.3   |
| Herd Life                        | 87    | 109   |
| Selection Indices                |       |       |
| LMI                              | 82    | 111   |
| Efficiency (EFI)                 | -0.70 | 0.71  |
| Prod (LPI)                       | 86    | 109   |
| Body Weight                      | -2.01 | 0.11  |

The average Breeding values and Indices of the sires used in the herd and breed

# Holstein-Friesland

## Inbreeding

- Inbreeding primarily leads to decreased fertility and low survivability of calves.
- The effects of inbreeding can be observed from 6.25% onwards.
- It is therefore highly recommended to record pedigree information as accurately and completely as possible and to use a selection programme for selection of unrelated bulls.
- Incomplete or incorrect pedigree information can be reported to SA Stud Book. Inbreeding is dependent on pedigree information. Conventional methods for the Calculation of inbreeding coefficients usually assume that unknown parents are unrelated. However, this is usually far from the truth. An algorithm is used for the calculation of inbreeding, where the average inbreeding coefficient is assigned to unknown parents based on the generation in which they were born. This result is a more accurate reflection of inbreeding of the herd and breed.

### 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% |

### Level and Rate of Inbreeding

| Years of Birth   | Level (%) * | %Rate / Year |
|------------------|-------------|--------------|
| 2000 - 2012      | 5.25        | 0.22         |
| Recommendations: | < 6.25      | < 0.1 - 0.2  |

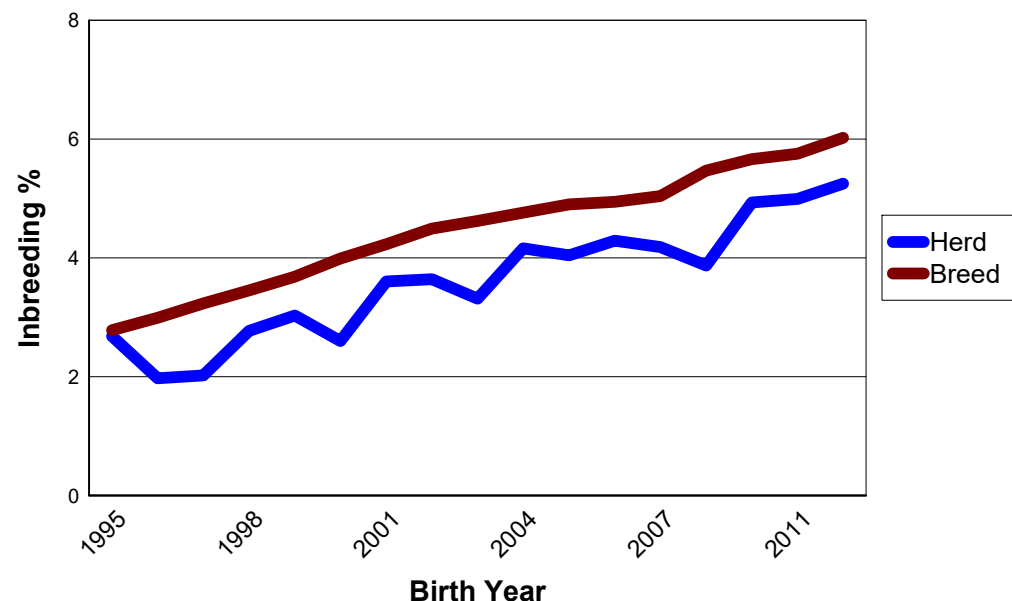
\* Of latest birth year

### Pedigree Information

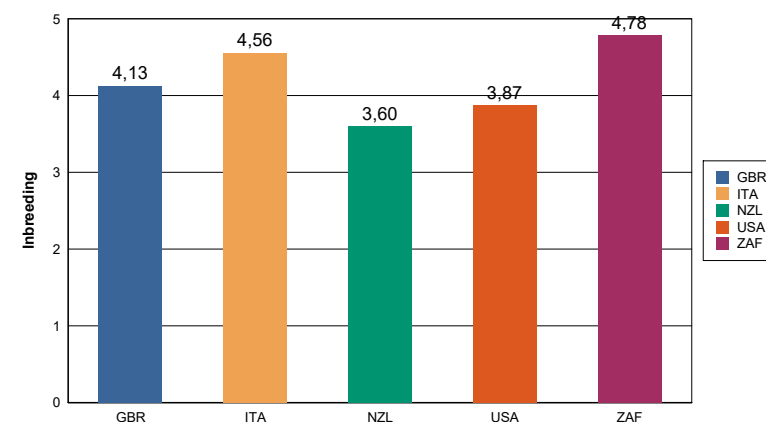
|             | Number | %  |
|-------------|--------|----|
| Known Sires | 35     | 92 |
| Known Dams  | 30     | 79 |

Note: If parentages are unknown, inbreeding will be under-estimated.

### Rate of Inbreeding: Herd vs Breed

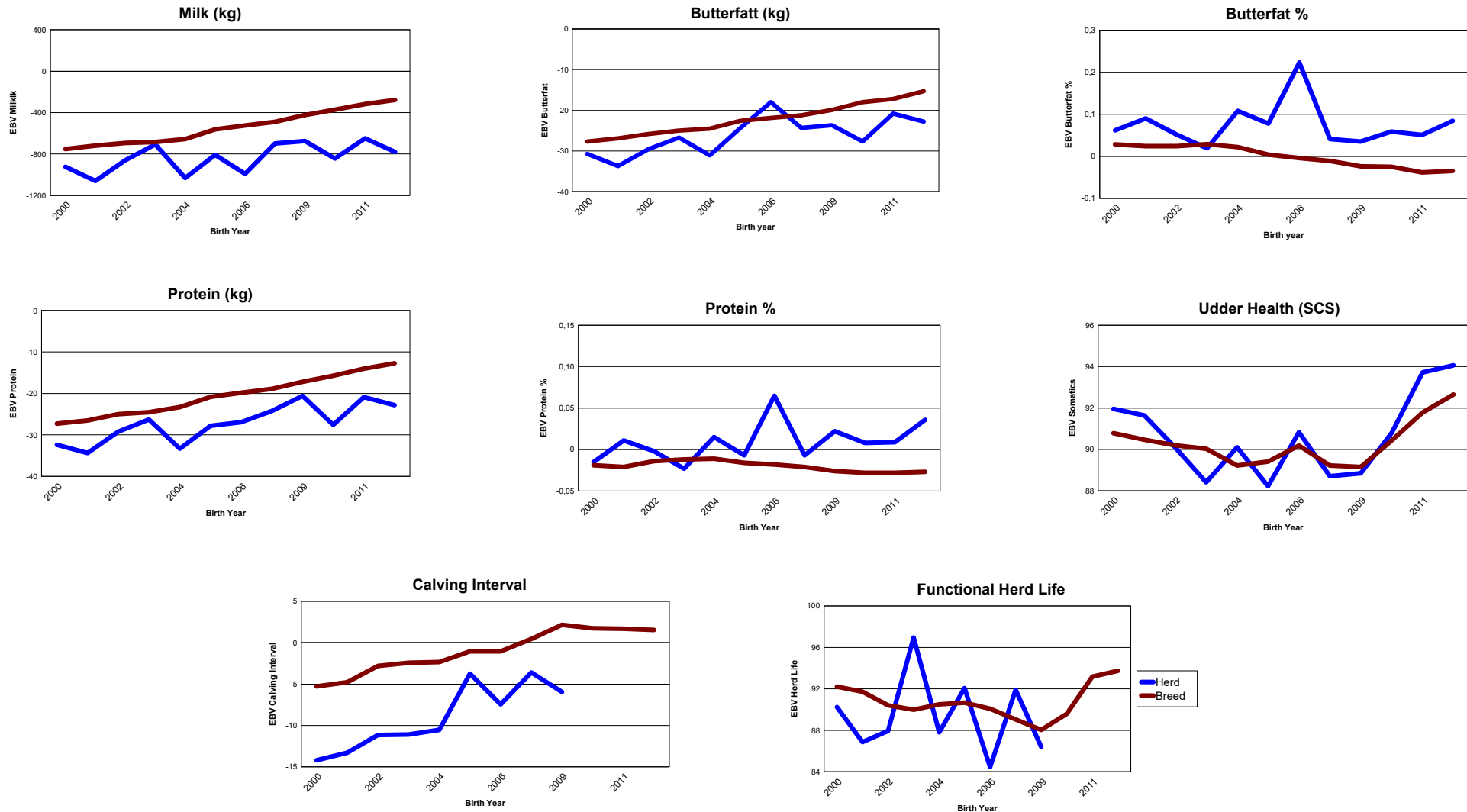


### Average Inbreeding per Country of Sire



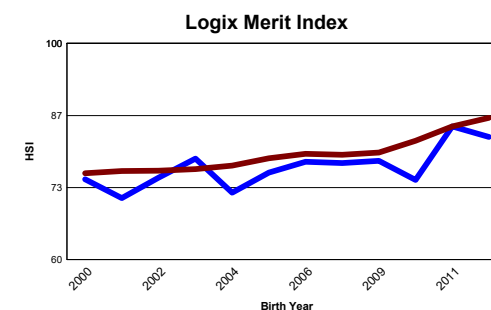
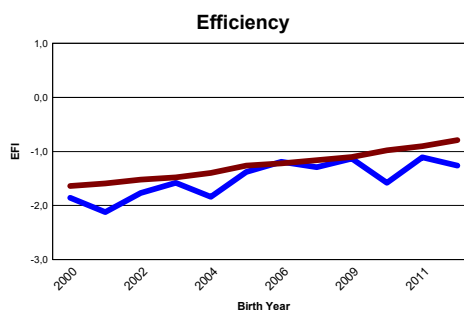
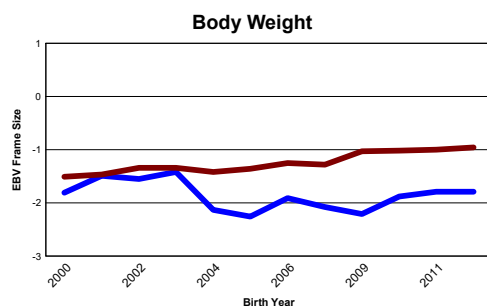
# Holstein-Friesland

Herd History: Genetic Trends of the Herd (blue) and Breed (brown): Breeding values



# Holstein-Friesland

Herd History: Genetic Trends of the Herd (blue) and Breed (brown): Breeding values



The average breeding values of milked cows per year in the herd and breed.

## Genetic Trends

### Cows Tested in Breed

| Birth Year | Number of Cows |        |       | EBV Milk | EBV BFat | EBV Prot | EBV BFat% | EBV Prot% | EBV SCS | EBV CalvInt | EBV H Life | LMI  | Inbreeding |
|------------|----------------|--------|-------|----------|----------|----------|-----------|-----------|---------|-------------|------------|------|------------|
|            | Milk           | Solids | SCS   |          |          |          |           |           |         |             |            |      |            |
| 2009       | 12002          | 11975  | 11975 | -425     | -19.9    | -17.2    | -0.02     | -0.03     | 89.2    | 2.2         | 88.0       | 79.8 | 5.47       |
| 2010       | 10800          | 10777  | 10777 | -372     | -18.0    | -15.7    | -0.03     | -0.03     | 90.4    | 1.8         | 89.6       | 82.0 | 5.66       |
| 2011       | 10642          | 10636  | 10636 | -317     | -17.2    | -14.0    | -0.04     | -0.03     | 91.8    | 1.7         | 93.2       | 84.7 | 5.75       |
| 2012       | 10140          | 10108  | 10109 | -278     | -15.3    | -12.7    | -0.04     | -0.03     | 92.7    | 1.5         | 93.7       | 86.2 | 6.02       |

### Cows Tested in Herd

| Birth Year | Number of Cows |        |     | EBV Milk | EBV BFat | EBV Prot | EBV BFat% | EBV Prot% | EBV SCS | EBV CalvInt | EBV H Life | LMI | Inbreeding |
|------------|----------------|--------|-----|----------|----------|----------|-----------|-----------|---------|-------------|------------|-----|------------|
|            | Milk           | Solids | SCS |          |          |          |           |           |         |             |            |     |            |
| 2009       | 10             | 10     | 10  | -675     | -23.7    | -20.6    | 0.04      | 0.02      | 88.9    | -6.0        | 86         | 78  | 3.87       |
| 2010       | 17             | 17     | 17  | -843     | -27.7    | -27.6    | 0.06      | 0.01      | 90.8    |             |            | 75  | 4.93       |
| 2011       | 13             | 13     | 13  | -648     | -20.8    | -20.9    | 0.05      | 0.01      | 93.7    |             |            | 85  | 4.99       |
| 2012       | 5              | 5      | 5   | -781     | -22.8    | -22.8    | 0.08      | 0.04      | 94.1    |             |            | 83  | 5.25       |

# Percentile Table

## Active Cows and Heifers

| Trait    | Average | Std. Dev. | Max.    | 5%     | 10%    | 25%    | 50%    | 75%     | 90%     | 95%     | Min.     |
|----------|---------|-----------|---------|--------|--------|--------|--------|---------|---------|---------|----------|
| Melk     | 25.60   | 414.29    | 1626.00 | 706.15 | 561.32 | 303.32 | 16.88  | -246.00 | -494.00 | -622.00 | -2191.00 |
| BVet     | 5.25    | 17.64     | 85.60   | 34.10  | 27.90  | 17.30  | 4.90   | -6.30   | -17.00  | -22.50  | -89.50   |
| Prot     | 4.08    | 12.93     | 57.00   | 24.70  | 20.80  | 13.60  | 3.70   | -4.60   | -12.40  | -17.30  | -53.80   |
| BV%      | 0.04    | 0.17      | 0.99    | 0.31   | 0.24   | 0.14   | 0.04   | -0.05   | -0.16   | -0.24   | -0.97    |
| Prot%    | 0.03    | 0.07      | 0.39    | 0.14   | 0.11   | 0.07   | 0.03   | -0.01   | -0.05   | -0.08   | -0.30    |
| Somaties | 102.31  | 8.23      | 135.00  | 115.90 | 112.60 | 107.50 | 102.20 | 97.10   | 92.40   | 88.80   | 60.00    |
| TKP      | -0.83   | 4.92      | 21.00   | -8.70  | -6.90  | -4.10  | -0.90  | 2.40    | 5.40    | 7.10    | -27.10   |
| KudLewe  | 103.38  | 11.53     | 149.00  | 124.00 | 120.00 | 111.00 | 101.00 | 95.00   | 90.00   | 87.00   | 55.00    |
| Gewig    | -0.15   | 0.81      | 5.36    | 1.13   | 0.79   | 0.30   | -0.14  | -0.58   | -1.10   | -1.50   | -6.34    |
| Uier     | 0.10    | 1.26      | 3.77    | 2.01   | 1.66   | 0.98   | 0.06   | -0.62   | -1.30   | -2.04   | -5.82    |
| H&B      | 0.11    | 0.88      | 1.96    | 1.27   | 1.03   | 0.65   | 0.25   | -0.22   | -1.03   | -1.65   | -8.62    |
| DTI      | 0.37    | 0.97      | 3.81    | 1.94   | 1.64   | 1.08   | 0.34   | -0.28   | -0.83   | -1.24   | -3.45    |
| Bouvorm  | -0.32   | 1.00      | 3.28    | 1.12   | 0.79   | 0.26   | -0.25  | -0.77   | -1.46   | -2.08   | -9.59    |
| FLD LMI  | 105.49  | 13.70     | 147.00  | 128.60 | 124.20 | 115.30 | 104.40 | 95.80   | 89.40   | 83.90   | 47.40    |
| LMI      | 105.10  | 12.99     | 143.70  | 126.80 | 122.90 | 114.70 | 104.10 | 95.90   | 89.60   | 84.20   | 50.70    |

### Interpretation:

A percentile table is an indication of where the animal's EBV falls relative to the rest of the breed. If an EBV of an animal falls between the maximum value and 5% level on the percentile table of "All Animals", this EBV is in the top 5% of the breed. If the EBV falls between 5% and 25%, this animal's EBV is in the top 25% of the breed. If the EBV falls within 95% and the minimum value, this EBV is in the bottom 5% of the breed for that specific trait.

# Percentile Table

## Active Bulls

| Trait    | Average | Std. Dev. | Max.    | 5%     | 10%    | 25%    | 50%    | 75%     | 90%     | 95%     | Min.     |
|----------|---------|-----------|---------|--------|--------|--------|--------|---------|---------|---------|----------|
| Melk     | 166.09  | 451.69    | 1407.79 | 853.00 | 696.50 | 477.00 | 167.00 | -102.00 | -434.00 | -595.00 | -1532.00 |
| BVet     | 11.09   | 23.20     | 91.00   | 51.50  | 41.50  | 25.20  | 10.60  | -5.00   | -17.50  | -25.48  | -76.00   |
| Prot     | 9.46    | 14.67     | 44.40   | 34.10  | 29.70  | 19.70  | 9.50   | -1.00   | -10.00  | -15.00  | -34.70   |
| BV%      | 0.04    | 0.22      | 0.99    | 0.38   | 0.33   | 0.17   | 0.05   | -0.09   | -0.23   | -0.30   | -0.82    |
| Prot%    | 0.04    | 0.10      | 0.38    | 0.19   | 0.16   | 0.09   | 0.03   | -0.02   | -0.09   | -0.12   | -0.27    |
| Somaties | 104.28  | 14.13     | 139.30  | 127.00 | 120.70 | 113.90 | 104.90 | 95.30   | 86.70   | 80.20   | 52.10    |
| TKP      | 0.31    | 8.43      | 22.00   | -14.20 | -10.20 | -5.30  | 1.00   | 6.00    | 10.40   | 14.17   | -33.30   |
| KudLewe  | 109.32  | 19.70     | 171.90  | 144.60 | 135.90 | 122.00 | 107.00 | 96.42   | 86.72   | 79.00   | 52.30    |
| Gewiq    | 0.11    | 1.52      | 5.69    | 2.58   | 2.04   | 1.05   | 0.15   | -0.79   | -1.75   | -2.38   | -5.09    |
| Uier     | 0.97    | 1.79      | 5.52    | 3.79   | 3.12   | 2.04   | 1.02   | 0.03    | -1.20   | -2.27   | -5.75    |
| H&B      | -0.78   | 1.53      | 1.71    | 1.11   | 0.91   | 0.33   | -0.56  | -1.54   | -2.97   | -3.46   | -8.02    |
| DTI      | 0.71    | 1.21      | 4.34    | 2.87   | 2.23   | 1.49   | 0.61   | -0.15   | -0.77   | -1.09   | -2.67    |
| Bouvorm  | -0.09   | 1.66      | 4.38    | 2.23   | 1.82   | 1.08   | 0.11   | -0.95   | -2.18   | -3.46   | -5.79    |
| FLD LMI  | 111.05  | 18.85     | 161.30  | 145.20 | 134.20 | 122.40 | 111.30 | 98.60   | 87.60   | 81.40   | 61.30    |
| LMI      | 110.98  | 17.42     | 156.80  | 143.20 | 133.00 | 121.30 | 110.90 | 100.00  | 88.90   | 83.40   | 65.10    |

# BULLS

Bulls are sorted alphabetically M = MACE (International) breeding values and reliability GM = GMACE G = Genomic information R = Reliability Above breed average Top 10% of the breed Bottom 10% of the breed \*Inbreeding in red is high

| Bull                               |                                                                                   |                               |              | Selection Indices |     |     |              | Estimated Breeding Values (EBV) and Reliabilities (B) |                 |                  |                   |                  |                   |                  |                    |             |                      | S.A. Daughters and Herds |                      |               |              |  |
|------------------------------------|-----------------------------------------------------------------------------------|-------------------------------|--------------|-------------------|-----|-----|--------------|-------------------------------------------------------|-----------------|------------------|-------------------|------------------|-------------------|------------------|--------------------|-------------|----------------------|--------------------------|----------------------|---------------|--------------|--|
| Compnr<br>FarmerNr                 | Parent<br>Verification                                                            | Name                          | BYear<br>Cnt | % In-<br>breeding | LMI | LPI | EFI          | BWI                                                   | Milk<br>Index R | BFat<br>Index R  | BFat %<br>Index R | Prot<br>Index R  | Prot %<br>Index R | Som<br>Index R   | CalvInt<br>Index R | HLife<br>R  | Lac > 149 d<br>Herds | Lac < 150 d<br>Herds     | Avg<br>Lac<br>Length | %Short<br>Lac | Compl<br>Lac |  |
| Active Breed Average:              |                                                                                   |                               |              | 8.73              | 105 | 104 | 0.37         | -0.15                                                 | 26              | 5.2              | 0.04              | 4.1              | 0.03              | 102              | -0.8               | 103         |                      |                          |                      |               |              |  |
| 2011603103                         |                                                                                   | CANYON-BREEZE ARMSTRONG TL TV | 2001<br>USA  | 6.26              | 79  | 96  | -0.22<br>97  | -1.19<br>86                                           | 228<br>106 97   | -9.0<br>95 97    | -0.17<br>91       | -5.0<br>95 97    | -0.12<br>83       | 9.0<br>93 92     | M 19.0<br>63 80    | 58<br>86    | 377 33               | 3 2                      | 261 16               | 721           |              |  |
| 2011254188<br>FR05730816           |                                                                                   | DE GRENDL STRIKER             | 2004<br>ZAF  | 5.10              | 71  | 88  | 0.06<br>101  | -4.29<br>49                                           | -931<br>76 86   | -2.6<br>99 84    | 0.36<br>119       | -21.8<br>79 85   | 0.09<br>113       | 60.5<br>53 68    | 7.3<br>86 41       | 72<br>53    | 69 15                |                          | 265 11               | 131           |              |  |
| 26621128                           |  | EXRANCO JAKE-ET               | 1986<br>USA  | 7.10              | 75  | 80  | -0.73<br>91  | -4.21<br>50                                           | M -767<br>80 97 | M -19.0<br>89 96 | 0.12<br>106       | M -27.0<br>74 97 | -0.01<br>98       | M 23.0<br>82 89  | M 12.0<br>77 81    | M 96<br>83  | 120 30               |                          | 268 7                | 273           |              |  |
| 2011222979                         |                                                                                   | GANDY MTOTO FICTION-ET TL     | 1999<br>ITA  | 6.53              | 88  | 78  | -1.77<br>79  | 0.09<br>101                                           | -760<br>80 94   | -26.0<br>84 93   | 0.05<br>103       | -23.0<br>78 93   | 0.02<br>103       | 2.0<br>98 83     | M -17.1<br>133 70  | M 116<br>75 | 189 23               |                          | 254 20               | 335           |              |  |
| 2011625254                         |                                                                                   | KRULL BWM EVON                | 2004<br>USA  | 8.07              | 73  | 87  | -1.52<br>82  | 1.21<br>115                                           | M 248<br>106 79 | M -23.5<br>86 77 | -0.31<br>83       | M -13.0<br>88 78 | -0.19<br>73       | M -4.2<br>103 71 | M 20.3<br>61 61    | M 62<br>62  | 35 12                |                          | 266 11               | 72            |              |  |
| 33488768                           |                                                                                   | LEFT-MAC CHIEF BELL BOY       | 1989<br>USA  | 3.79              | 85  | 88  | -1.47<br>82  | 2.43<br>129                                           | M -422<br>89 72 | M -13.9<br>92 67 | 0.03<br>102       | M -13.7<br>87 70 | 0.00<br>100       | M 7.3<br>94 70   | M -3.2<br>106 64   | M 93<br>64  | 24 6                 |                          | 272 13               | 38            |              |  |
| 39058904<br>21274691               |                                                                                   | LEXY-LANE PROMISE LANCE-ET    | 1990<br>USA  | 7.13              | 97  | 85  | -0.15<br>98  | -4.72<br>43                                           | -677<br>82 85   | -11.0<br>93 83   | 0.16<br>108       | -22.0<br>79 84   | 0.01<br>101       | M -0.9<br>101 74 | M -20.3<br>139 64  | M 106<br>67 | 64 8                 |                          | 255 23               | 129           |              |  |
| 2011886237                         |                                                                                   | MERRICKS HUGO ROBUST S1F      | 2000<br>NZL  | 3.83              | 85  | 81  | -0.79<br>91  | -2.78<br>67                                           | M -932<br>76 58 | M -19.4<br>88 50 | 0.19<br>110       | M -18.0<br>83 54 | 0.13<br>119       | M 26.0<br>80 63  | M -17.0<br>133 58  | M 105<br>61 | 11 3                 |                          | 256 12               | 24            |              |  |
| 2011574452                         |                                                                                   | MOET NANSEN-ET                | 1999<br>GBR  | 5.86              | 77  | 90  | -0.60<br>93  | -0.79<br>91                                           | M -327<br>92 74 | M -13.6<br>92 69 | 0.00<br>100       | M -7.1<br>93 72  | 0.04<br>106       | M 29.4<br>77 66  | M 6.2<br>88 61     | M 72<br>65  | 34 9                 |                          | 261 10               | 68            |              |  |
| 2010726434                         |                                                                                   | MORNINGVIEW DURHAM JINX-ET TV | 2001<br>USA  | 7.97              | 90  | 81  | -0.49<br>94  | -5.09<br>39                                           | -582<br>85 94   | -27.0<br>84 93   | -0.04<br>98       | -15.0<br>86 94   | 0.04<br>106       | -2.0<br>102 85   | M -8.7<br>117 72   | M 106<br>76 | 190 21               | 2 1                      | 256 18               | 365           |              |  |
| 2011822117                         |                                                                                   | SPRINGHILL-OH NATHAN-ET       | 2001<br>USA  | 5.51              | 83  | 93  | -0.02<br>100 | -2.76<br>67                                           | M -385<br>90 75 | M -2.8<br>98 69  | 0.12<br>106       | M -15.2<br>85 72 | -0.02<br>97       | M 14.6<br>89 69  | M 3.4<br>93 63     | M 66<br>65  | 29 7                 |                          | 198 41               | 44            |              |  |
| Bull Average Herd:<br>Aantal: 11   |                                                                                   |                               |              | 6.10              | 82  | 86  | -0.70        | -2.01                                                 | -482            | -15.3            | 0.05              | -16.4            | 0.00              | 88.33            | 0.2                | 87          |                      |                          |                      |               |              |  |
| Bull Average Breed:<br>Aantal: 481 |                                                                                   |                               |              | 9.41              | 111 | 109 | 0.71         | 0.11                                                  | 166             | 11.1             | 0.04              | 9.3              | 0.04              | 104.22           | 0.3                | 109         |                      |                          |                      |               |              |  |

# Most Influential Bulls in the Herd

The difference between the Bull's breeding values and the Average Breeding Values of his Daughters reflects the Genetic Levels of the Dams  
The difference between the Average of the Bull's Daughters in this herd and the Average of all the Bull's Daughters reflects the Genetic Levels of the Herd within the Breed

Herd Daughters > All Daughters

Herd Daughters < All Daughters

| Name            |                               | Total Daughters  |                    | Active Daughters |                    | Breeding Values and Selection Indices                  |           |         |       |       |          |     |           |     |     |
|-----------------|-------------------------------|------------------|--------------------|------------------|--------------------|--------------------------------------------------------|-----------|---------|-------|-------|----------|-----|-----------|-----|-----|
| Regnr           | Country                       | Year of Birth    |                    | Year of Birth    |                    | Milk                                                   | Butterfat | Protein | BFat% | Prot% | Somatics | ICP | Herd Life | EFI | LMI |
|                 |                               | In SA<br>In Milk | In Herd<br>In Milk | In SA<br>In Milk | In Herd<br>In Milk |                                                        |           |         |       |       |          |     |           |     |     |
| Breed Average : |                               |                  |                    |                  |                    | 100                                                    | 103       | 103     | 102   | 104   | 102      | 102 | 103       | 104 | 105 |
| Herd Average :  |                               |                  |                    |                  |                    | 80                                                     | 85        | 75      | 103   | 100   | 91       | 112 | 93        | 83  | 78  |
| 1               | EXRANCO JAKE-ET               | 1992             | - 2005             | 2004             | - 2005             | Bull EBVi : 80 89 74 106 98 82 77 96 91 75             |           |         |       |       |          |     |           |     |     |
| 26621128        | USA                           | 126              | 36                 | 10               | 10                 | Herd Daughtetr EBVi : 75 83 68 105 98 88 103 94 81 72  |           |         |       |       |          |     |           |     |     |
|                 |                               | 120              | 36                 | 10               | 10                 | All Daughtetr EBVi : 75 82 67 105 97 90 107 99 80 74   |           |         |       |       |          |     |           |     |     |
| 2               | MORNINGVIEW DURHAM JINX-ET TV | 2003             | - 2015             | 2007             | - 2009             | Bull EBVi : 85 84 86 98 106 102 117 106 94 90          |           |         |       |       |          |     |           |     |     |
| 2010726434      | USA                           | 243              | 8                  | 6                | 6                  | Herd Daughtetr EBVi : 86 83 81 98 99 98 112 99 87 83   |           |         |       |       |          |     |           |     |     |
|                 |                               | 190              | 8                  | 6                | 6                  | All Daughtetr EBVi : 85 84 82 98 101 96 108 98 88 83   |           |         |       |       |          |     |           |     |     |
| 3               | DE GRENDDEL STRIKER           | 2006             | - 2011             | 2007             | - 2007             | Bull EBVi : 76 99 79 119 113 53 86 72 101 71           |           |         |       |       |          |     |           |     |     |
| 2011254188      | ZAF                           | 85               | 6                  | 3                | 3                  | Herd Daughtetr EBVi : 77 89 74 110 103 71 103 87 88 72 |           |         |       |       |          |     |           |     |     |
|                 |                               | 69               | 6                  | 3                | 3                  | All Daughtetr EBVi : 78 91 76 111 106 73 98 83 91 73   |           |         |       |       |          |     |           |     |     |
| 4               | LEFT-MAC CHIEF BELL BOY       | 1996             | - 2005             | 2005             | - 2005             | Bull EBVi : 89 92 87 102 100 94 106 93 82 85           |           |         |       |       |          |     |           |     |     |
| 33488768        | USA                           | 26               | 5                  | 1                | 1                  | Herd Daughtetr EBVi : 79 86 76 105 102 95 110 86 81 77 |           |         |       |       |          |     |           |     |     |
|                 |                               | 24               | 5                  | 1                | 1                  | All Daughtetr EBVi : 78 83 73 103 100 99 112 91 76 76  |           |         |       |       |          |     |           |     |     |

# COWS

Animals are sorted on farmer number within birth year

\*Inbreeding in red is high

G = Genomic information

R = Reliability

Above breed average

Top 10% of the breed

Bottom 10% of the breed

| Cow                   |                        |      |                    | Selection Indices |     |             |             | Estimated Breeding Values (EBV) |               |                 |               |                 |              |                 |            |                     |             |     |            | Average Production Values |           |            |           |                                        |                |  |  | Pedigree |  |  |
|-----------------------|------------------------|------|--------------------|-------------------|-----|-------------|-------------|---------------------------------|---------------|-----------------|---------------|-----------------|--------------|-----------------|------------|---------------------|-------------|-----|------------|---------------------------|-----------|------------|-----------|----------------------------------------|----------------|--|--|----------|--|--|
| FarmNr<br>Regnr       | Parent<br>Verification | Name | % In-<br>breeding* | LMI               | LPI | EFI         | BWI         | Milk<br>Index                   | BFat<br>Index | BFat %<br>Index | Prot<br>Index | Prot %<br>Index | Som<br>Index | Calvnt<br>Index | HLife<br>R | Test/lact.<br>1 2 3 | Nr.<br>Lact | ICP | Kg<br>Milk | Kg<br>BFat                | %<br>BFat | Kg<br>Prot | %<br>Prot | Sire<br>Dam                            | Dam<br>BirthYr |  |  |          |  |  |
| Active Breed Average: |                        |      | 8.73               | 105               | 104 | 0.37        | -0.15       | 26                              | 5.2           | 0.04            | 4.1           | 0.03            | 102          | -0.8            | 103        |                     |             |     |            |                           |           |            |           |                                        |                |  |  |          |  |  |
|                       |                        |      |                    |                   |     |             |             | Year of Birth : 2004            |               |                 |               |                 |              |                 |            |                     |             |     |            |                           |           |            |           |                                        |                |  |  |          |  |  |
| 2476<br>49197676      | 2476                   |      | 4.16               | 66                | 66  | -2.09<br>75 | -2.90<br>65 | -1109<br>71                     | -38.5<br>51   | 0.06<br>77      | -37.1<br>46   | 0.00<br>103     | 21.1<br>64   | -2.5<br>48      | 96<br>100  | 8 8                 | 5           | 410 | 5072       | 220                       | 4.3       | 187        | 3.7       | EXRANCO JAKE-ET                        |                |  |  |          |  |  |
| 2478<br>49197692      | 2478                   |      | 4.16               | 72                | 70  | -1.83<br>78 | -2.90<br>65 | -1052<br>73                     | -28.4<br>46   | 0.14<br>83      | -41.8<br>43   | -0.07<br>107    | 5.0<br>60    | 2.5<br>44       | 99<br>90   | 8 8                 | 5           | 452 | 4686       | 207                       | 4.4       | 162        | 3.5       | EXRANCO JAKE-ET                        |                |  |  |          |  |  |
| 2483<br>49197908      | 2483                   |      | 4.16               | 71                | 70  | -1.77<br>79 | -2.90<br>65 | -1104<br>71                     | -29.9<br>52   | 0.15<br>82      | -37.2<br>47   | 0.00<br>108     | 16.7<br>64   | -3.2<br>48      | 97<br>100  | 7 9 9               | 9           | 374 | 4819       | 214                       | 4.4       | 172        | 3.6       | EXRANCO JAKE-ET                        |                |  |  |          |  |  |
|                       |                        |      |                    |                   |     |             |             | Year of Birth : 2005            |               |                 |               |                 |              |                 |            |                     |             |     |            |                           |           |            |           |                                        |                |  |  |          |  |  |
| 2501<br>61500674      | 2501                   |      | 4.82               | 60                | 62  | -2.79<br>67 | -1.27<br>85 | -1163<br>70                     | -44.6<br>55   | 0.02<br>73      | -41.4<br>50   | -0.03<br>101    | 11.6<br>60   | 0.9<br>52       | 89<br>96   | 8 8 8               | 4           | 377 | 4459       | 181                       | 4.1       | 165        | 3.7       | EXRANCO JAKE-ET<br>ZBHW9914            | 1999           |  |  |          |  |  |
| 2502<br>61505491      | 2502                   |      | 3.80               | 82                | 83  | -0.96<br>89 | -1.76<br>79 | -624<br>84                      | -18.4<br>54   | 0.06<br>89      | -19.2<br>50   | 0.02<br>103     | 12.9<br>82   | 0.6<br>52       | 98<br>103  | 8 8 8               | 6           | 433 | 6788       | 279                       | 4.1       | 238        | 3.5       | EXRANCO JAKE-ET<br>7014014208          | 1996           |  |  |          |  |  |
| 25106<br>62472998     | 25106                  |      | 2.60               | 69                | 61  | -2.20<br>74 | -4.67<br>44 | -1249<br>68                     | -43.6<br>53   | 0.06<br>74      | -45.5<br>49   | -0.04<br>103    | 4.1<br>56    | -18.8<br>50     | 90<br>94   | 8 8 7               | 10          | 361 | 4670       | 203                       | 4.3       | 159        | 3.4       | LEXY-LANE PROMISE LANCE-ET<br>ZBHW9410 | 1994           |  |  |          |  |  |
| 2511<br>61500740      | 2511                   |      | 3.17               | 71                | 74  | -1.37<br>84 | -3.59<br>57 | -792<br>79                      | -32.2<br>52   | -0.01<br>81     | -26.7<br>48   | 0.00<br>99      | 22.3<br>74   | -2.9<br>50      | 87<br>100  | 8 7 8               | 9           | 367 | 5333       | 225                       | 4.2       | 189        | 3.6       | EXRANCO JAKE-ET<br>7016648102          | 2002           |  |  |          |  |  |
| 25110<br>62472675     | 25110                  |      | 3.20               | 77                | 79  | -1.43<br>83 | -0.97<br>88 | -871<br>77                      | -18.1<br>48   | 0.16<br>89      | -28.7<br>43   | 0.00<br>108     | 13.1<br>72   | -7.1<br>43      | 85<br>100  | 8 8                 | 9           | 386 | 5086       | 233                       | 4.6       | 179        | 3.5       | LEFT-MAC CHIEF BELL BOY<br>ZBHW9907    | 1999           |  |  |          |  |  |
| 25112<br>62472691     | 25112                  |      | 1.71               | 81                | 80  | -1.17<br>86 | -1.90<br>77 | -878<br>77                      | -20.8<br>52   | 0.15<br>88      | -23.0<br>47   | 0.07<br>108     | 12.7<br>78   | -15.6<br>48     | 85<br>110  | 8 8 8               | 5           | 369 | 5695       | 249                       | 4.4       | 205        | 3.6       | LEXY-LANE PROMISE LANCE-ET<br>ZBHW0033 | 2000           |  |  |          |  |  |
| 2520<br>61500815      | 2520                   |      | 5.88               | 67                | 71  | -1.98<br>76 | -2.02<br>76 | -779<br>80                      | -34.4<br>57   | -0.04<br>79     | -33.6<br>52   | -0.08<br>98     | 22.7<br>68   | 3.6<br>53       | 95<br>88   | 8 8                 | 8           | 362 | 5166       | 209                       | 4.0       | 174        | 3.4       | EXRANCO JAKE-ET<br>7016512480          | 2002           |  |  |          |  |  |
| 2549<br>61500617      | 2549                   |      | 3.67               | 78                | 79  | -1.05<br>87 | -3.29<br>61 | -567<br>85                      | -26.7<br>51   | -0.04<br>84     | -21.9<br>47   | -0.03<br>98     | 6.5<br>79    | 3.8<br>49       | 90<br>96   | 8 8 8               | 5           | 423 | 6405       | 254                       | 4.0       | 228        | 3.6       | EXRANCO JAKE-ET<br>7016648060          | 2002           |  |  |          |  |  |
| 2550<br>61500625      | 2550                   |      | 3.63               | 74                | 73  | -1.47<br>82 | -3.58<br>57 | -905<br>77                      | -28.3<br>52   | 0.08<br>83      | -35.1<br>49   | -0.05<br>104    | 15.2<br>66   | -5.6<br>50      | 94<br>93   | 8 9 8               | 7           | 363 | 4986       | 214                       | 4.3       | 178        | 3.6       | EXRANCO JAKE-ET<br>7016242856          | 2001           |  |  |          |  |  |
| 2552<br>61500633      | 2552                   |      | 3.39               | 77                | 73  | -1.83<br>78 | -1.63<br>80 | -983<br>74                      | -28.7<br>56   | 0.11<br>83      | -32.5<br>51   | 0.00<br>106     | 4.0<br>69    | -6.7<br>53      | 101<br>100 | 8 7 8               | 9           | 440 | 5066       | 238                       | 4.7       | 187        | 3.7       | EXRANCO JAKE-ET<br>ZBHW979716          | 1997           |  |  |          |  |  |
|                       |                        |      |                    |                   |     |             |             | Year of Birth : 2006            |               |                 |               |                 |              |                 |            |                     |             |     |            |                           |           |            |           |                                        |                |  |  |          |  |  |
| 2605<br>62472782      | 2605                   |      | 4.29               | 82                | 85  | -0.64<br>92 | -2.02<br>76 | -1039<br>73                     | -6.6<br>41    | 0.36<br>96      | -24.0<br>32   | 0.11<br>119     | 20.2<br>77   | -8.7<br>35      | 84<br>116  | 8 8 8               | 4           | 491 | 5676       | 261                       | 4.6       | 211        | 3.7       | 22107                                  | 2002           |  |  |          |  |  |
| 2612<br>62472857      | 2612                   |      | 4.29               | 79                | 79  | -1.15<br>86 | -1.86<br>78 | -1126<br>71                     | -15.9<br>41   | 0.30<br>91      | -27.8<br>35   | 0.10<br>116     | 7.3<br>73    | -8.6<br>37      | 83<br>114  | 9 9 7               | 5           | 457 | 5253       | 247                       | 4.7       | 191        | 3.6       | ZBHW02217                              | 2002           |  |  |          |  |  |
|                       |                        |      |                    |                   |     |             |             | Year of Birth : 2007            |               |                 |               |                 |              |                 |            |                     |             |     |            |                           |           |            |           |                                        |                |  |  |          |  |  |
| 2708<br>2011789381    | CAIRNBROGIE 2708       |      | 3.86               | 78                | 85  | -0.94<br>89 | -1.50<br>82 | -478<br>88                      | -15.2<br>54   | 0.03<br>91      | -21.1<br>48   | -0.05<br>102    | 33.5<br>80   | 0.3<br>50       | 92<br>93   | 8 8 7               | 7           | 383 | 6588       | 280                       | 4.3       | 212        | 3.2       | DE GRENDL STRIKER<br>2312              | 2003           |  |  |          |  |  |
| 27140<br>70268602     | 27140                  |      | 4.35               | 71                | 70  | -1.96<br>76 | -1.97<br>76 | -1196<br>69                     | -30.1<br>42   | 0.18<br>82      | -36.6<br>34   | 0.03<br>109     | 17.1<br>65   | -10.7<br>37     | 91<br>104  | 8 8 7               | 7           | 378 | 5797       | 264                       | 4.6       | 196        | 3.4       | ZBHW9727                               | 1997           |  |  |          |  |  |

# COWS

Animals are sorted on farmer number within birth year

\*Inbreeding in red is high

G = Genomic information

R = Reliability

Above breed average

Top 10% of the breed

Bottom 10% of the breed

| Cow                   |                        |                   |                         | Selection Indices    |     |             |             | Estimated Breeding Values (EBV) |               |                 |               |                 |              |                 |            |                     |             |     |            |            | Average Production Values |            |           |                                            |                |  |  | Pedigree |  |
|-----------------------|------------------------|-------------------|-------------------------|----------------------|-----|-------------|-------------|---------------------------------|---------------|-----------------|---------------|-----------------|--------------|-----------------|------------|---------------------|-------------|-----|------------|------------|---------------------------|------------|-----------|--------------------------------------------|----------------|--|--|----------|--|
| FarmNr<br>Regnr       | Parent<br>Verification | Name              | % In-<br>breed-<br>ing* | LMI                  | LPI | EFI         | BWI         | Milk<br>Index                   | BFat<br>Index | BFat %<br>Index | Prot<br>Index | Prot %<br>Index | Som<br>Index | Calvnt<br>Index | HLife<br>R | Test/lact.<br>1 2 3 | Nr.<br>Lact | ICP | Kg<br>Milk | Kg<br>BFat | %<br>BFat                 | Kg<br>Prot | %<br>Prot | Sire<br>Dam                                | Dam<br>BirthYr |  |  |          |  |
| Active Breed Average: |                        |                   | 8.73                    | 105                  | 104 | 0.37        | -0.15       | 26                              | 5.2           | 0.04            | 4.1           | 0.03            | 102          | -0.8            | 103        |                     |             |     |            |            |                           |            |           |                                            |                |  |  |          |  |
| 2717<br>2011842263    |                        | CAIRNBROGIE 2717  | 4.35                    | 73                   | 80  | -1.00<br>88 | -3.01<br>64 | -788<br>80                      | -20.0<br>43   | 0.12<br>106     | -26.3<br>75   | 0.00<br>100     | 36.0<br>72   | -2.8<br>105     | 86<br>16   | 8 8 7               | 4           | 354 | 5618       | 214        | 3.8                       | 183        | 3.3       | DE GRENDL STRIKER                          |                |  |  |          |  |
| 2720<br>2011842289    |                        | CAIRNBROGIE 2720  | 3.52                    | 85                   | 81  | -1.05<br>87 | -2.98<br>64 | -165<br>96                      | -34.8<br>79   | -0.27<br>86     | -10.6<br>90   | -0.05<br>93     | 6.1<br>95    | -5.5<br>111     | 103<br>22  | 9 9                 | 5           | 305 | 6192       | 243        | 3.9                       | 209        | 3.4       | MORNINGVIEW DURHAM JINX-ET TV<br>ZBHW02214 | 2002           |  |  |          |  |
| 2722<br>2011842271    |                        | CAIRNBROGIE 2722  | 4.08                    | 84                   | 77  | -1.07<br>87 | -3.81<br>54 | -639<br>83                      | -27.6<br>53   | -0.02<br>99     | -24.4<br>77   | -0.03<br>96     | -4.6<br>104  | -7.2<br>114     | 97<br>26   | 9 8                 | 7           | 392 | 6315       | 270        | 4.3                       | 212        | 3.4       | MORNINGVIEW DURHAM JINX-ET TV<br>ZBHW0036  | 2000           |  |  |          |  |
| 2727<br>2011842305    |                        | CAIRNBROGIE 2727  | 4.35                    | 67                   | 77  | -1.22<br>85 | -3.01<br>64 | -912<br>76                      | -21.1<br>40   | 0.16<br>108     | -32.0<br>69   | -0.02<br>97     | 48.8<br>62   | -0.6<br>28      | 87<br>17   | 9 8                 | 3           | 491 | 6027       | 243        | 4.0                       | 195        | 3.2       | DE GRENDL STRIKER                          |                |  |  |          |  |
| 2751<br>2011882087    |                        | CAIRNBROGIE 2751  | 4.39                    | 89                   | 85  | -0.62<br>93 | -2.80<br>66 | -501<br>87                      | -16.0<br>56   | 0.04<br>102     | -18.1<br>83   | -0.01<br>98     | -1.5<br>101  | -0.8<br>37      | 101<br>25  | 9 8 8               | 4           | 377 | 6759       | 279        | 4.1                       | 227        | 3.4       | MORNINGVIEW DURHAM JINX-ET TV<br>2309      | 2003           |  |  |          |  |
| 2767<br>2011882129    |                        | CAIRNBROGIE 2767  | 2.86                    | 81                   | 73  | -1.92<br>77 | -1.05<br>87 | -1039<br>73                     | -30.1<br>52   | 0.12<br>106     | -29.4<br>72   | 0.06<br>109     | 15.2<br>88   | -16.8<br>35     | 118<br>22  | 8 8 8               | 4           | 381 | 5863       | 246        | 4.2                       | 199        | 3.4       | GANDY MTOTO FICTION-ET TL<br>2352          | 2003           |  |  |          |  |
| 2770<br>2011882137    |                        | CAIRNBROGIE 2770  | 3.11                    | 79                   | 83  | -1.66<br>80 | 0.48<br>106 | -22<br>99                       | -30.7<br>54   | -0.28<br>85     | -13.2<br>87   | -0.11<br>50     | 0.8<br>99    | 4.2<br>29       | 88<br>18   | 8 8 8               | 5           | 449 | 7640       | 273        | 3.6                       | 240        | 3.1       | KRULL BWM EVON<br>ZBHW9846                 | 1998           |  |  |          |  |
| 2771<br>2011882145    |                        | CAIRNBROGIE 2771  | 5.18                    | 82                   | 77  | -1.39<br>83 | -2.25<br>73 | -602<br>84                      | -30.3<br>56   | -0.06<br>97     | -21.4<br>79   | -0.01<br>98     | 5.3<br>96    | -7.5<br>35      | 102<br>25  | 8 7 8               | 8           | 375 | 6092       | 239        | 3.9                       | 196        | 3.2       | MORNINGVIEW DURHAM JINX-ET TV<br>2325      | 2003           |  |  |          |  |
| 2775<br>2011882111    |                        | CAIRNBROGIE 2775  | 6.25                    | 84                   | 79  | -1.56<br>81 | -0.96<br>89 | -575<br>85                      | -28.9<br>36   | -0.06<br>97     | -19.6<br>81   | 0.00<br>100     | 5.3<br>96    | -8.2<br>28      | 110<br>26  | 7 9 8               | 6           | 435 | 6805       | 277        | 4.1                       | 224        | 3.3       | GANDY MTOTO FICTION-ET TL<br>ZBHW2227      | 2002           |  |  |          |  |
| 2789<br>2011918410    |                        | CAIRNBROGIE 2789  | 4.35                    | 81                   | 87  | -1.15<br>86 | -0.30<br>96 | 42<br>101                       | -25.4<br>48   | -0.26<br>85     | -8.5<br>92    | -0.09<br>44     | 2.1<br>98    | 6.3<br>26       | 83<br>14   | 8 8 7               | 3           | 355 | 7322       | 266        | 3.6                       | 235        | 3.2       | KRULL BWM EVON                             |                |  |  |          |  |
| 2790<br>2011918386    |                        | CAIRNBROGIE 2790  | 4.35                    | 72                   | 72  | -2.28<br>73 | -0.30<br>96 | -698<br>82                      | -33.7<br>48   | -0.06<br>97     | -32.9<br>68   | -0.09<br>87     | -3.3<br>103  | -1.3<br>25      | 89<br>15   | 8 8 8               | 4           | 340 | 4993       | 213        | 4.3                       | 164        | 3.3       | KRULL BWM EVON                             |                |  |  |          |  |
|                       |                        |                   |                         | Year of Birth : 2009 |     |             |             |                                 |               |                 |               |                 |              |                 |            |                     |             |     |            |            |                           |            |           |                                            |                |  |  |          |  |
| 29117<br>2012334344   |                        | CAIRNBROGIE 29117 | 3.09                    | 76                   | 71  | -1.66<br>80 | -3.39<br>59 | -739<br>81                      | -37.5<br>50   | -0.08<br>96     | -28.7<br>72   | -0.04<br>94     | 8.7<br>93    | -11.0<br>32     | 99<br>21   | 8 7 7               | 4           | 383 | 5875       | 224        | 3.8                       | 180        | 3.1       | MORNINGVIEW DURHAM JINX-ET TV<br>ZBHW9989  | 1999           |  |  |          |  |
| 2966<br>2012304016    |                        | CAIRNBROGIE 2966  | 2.87                    | 78                   | 78  | -1.07<br>87 | -3.10<br>63 | -833<br>78                      | -25.4<br>44   | 0.08<br>104     | -22.1<br>79   | 0.06<br>109     | 17.0<br>87   | -9.0<br>21      | 90<br>12   | 8 8 3               | 3           | 441 | 5584       | 241        | 4.3                       | 203        | 3.6       | MERRICKS HUGO ROBUST S1F<br>7015758217     | 2000           |  |  |          |  |
| 2976<br>2012301913    |                        | CAIRNBROGIE 2976  | 6.21                    | 70                   | 79  | -1.52<br>82 | -1.28<br>85 | -459<br>88                      | -30.2<br>48   | -0.12<br>94     | -19.6<br>81   | -0.04<br>94     | 16.7<br>87   | -0.6<br>26      | 70<br>17   | 8                   | 1           | 0   | 4674       | 179        | 3.8                       | 150        | 3.2       | MOET NANSEN-ET<br>2344                     | 2003           |  |  |          |  |
| 2977<br>2012301921    |                        | CAIRNBROGIE 2977  | 2.01                    | 73                   | 77  | -1.30<br>84 | -2.37<br>72 | -914<br>76                      | -26.0<br>48   | 0.11<br>106     | -23.8<br>77   | 0.07<br>110     | 21.6<br>83   | -10.9<br>26     | 75<br>16   | 8 6                 | 2           | 343 | 4706       | 195        | 4.1                       | 162        | 3.4       | MOET NANSEN-ET<br>7015912533               | 2000           |  |  |          |  |
| 2983<br>2012301970    |                        | CAIRNBROGIE 2983  | 3.49                    | 79                   | 85  | -0.54<br>94 | -2.07<br>75 | -1074<br>72                     | -7.2<br>45    | 0.37<br>96      | -20.0<br>81   | 0.16<br>123     | 20.7<br>84   | -4.9<br>25      | 71<br>17   | 8 6                 | 4           | 460 | 6517       | 306        | 4.7                       | 240        | 3.7       | SPRINGHILL-OH NATHAN-ET<br>2203            | 2002           |  |  |          |  |
| 2987<br>2012301996    |                        | CAIRNBROGIE 2987  | 5.48                    | 78                   | 86  | -1.09<br>87 | -0.45<br>95 | -237<br>94                      | -19.8<br>52   | -0.10<br>95     | -13.3<br>87   | -0.05<br>93     | 11.0<br>91   | 7.8<br>34       | 78<br>85   | 8 8                 | 5           | 460 | 6838       | 268        | 3.9                       | 215        | 3.1       | CANYON-BREEZE ARMSTRONG TL TV<br>64779333  | 2005           |  |  |          |  |
| 2988<br>2012303992    |                        | CAIRNBROGIE 2988  | 4.16                    | 78                   | 84  | -0.92<br>89 | -2.23<br>73 | -332<br>91                      | -22.2<br>48   | -0.09<br>95     | -16.9<br>84   | -0.05<br>93     | 23.7<br>82   | -3.4<br>25      | 81<br>106  | 9 8 7               | 7           | 378 | 6400       | 261        | 4.1                       | 205        | 3.2       | MOET NANSEN-ET<br>2436                     | 2004           |  |  |          |  |
| 2990<br>2012302002    |                        | CAIRNBROGIE 2990  | 4.71                    | 84                   | 81  | -1.03<br>88 | -1.96<br>77 | -781<br>80                      | -18.4<br>40   | 0.13<br>107     | -22.1<br>79   | 0.04<br>106     | 12.3<br>90   | -8.3<br>17      | 100<br>9   | 8 8                 | 5           | 449 | 6829       | 297        | 4.4                       | 230        | 3.4       | MERRICKS HUGO ROBUST S1F                   |                |  |  |          |  |
| 2994<br>2012308850    |                        | CAIRNBROGIE 2994  | 3.52                    | 85                   | 81  | -0.96<br>89 | -2.98<br>64 | -432<br>89                      | -30.2<br>49   | -0.13<br>93     | -12.4<br>88   | 0.02<br>103     | -1.8<br>101  | -3.2<br>32      | 101<br>20  | 8 8                 | 2           | 667 | 5685       | 236        | 4.2                       | 189        | 3.3       | MORNINGVIEW DURHAM JINX-ET TV<br>ZBHW02214 | 2002           |  |  |          |  |
| 2999<br>2012308876    |                        | CAIRNBROGIE 2999  | 3.21                    | 82                   | 79  | -1.17<br>86 | -2.24<br>73 | -946<br>75                      | -19.6<br>23   | 0.18<br>109     | -26.6<br>74   | 0.05<br>107     | 13.1<br>90   | -10.6<br>12     | 97<br>9    | 8 8                 | 5           | 467 | 5761       | 256        | 4.4                       | 198        | 3.4       | MERRICKS HUGO ROBUST S1F<br>7016754207     | 2003           |  |  |          |  |

COWS

Animals are sorted on farmer number within birth year

\*Inbreeding in red is high

G = Genomic information      R = Reliability      Above breed average      Top 10% of the breed      Bottom 10% of the breed

| Cow                                  |                        |      |                         | Selection Indices |     |       |       | Estimated Breeding Values (EBV) |           |                 |               |                 |              |              |            |                     |             | Average Production Values |            |            |           |            |           | Pedigree    |                |  |  |
|--------------------------------------|------------------------|------|-------------------------|-------------------|-----|-------|-------|---------------------------------|-----------|-----------------|---------------|-----------------|--------------|--------------|------------|---------------------|-------------|---------------------------|------------|------------|-----------|------------|-----------|-------------|----------------|--|--|
| FarmNr<br>Regnr                      | Parent<br>Verification | Name | % In-<br>breed-<br>ing* | LMI               | LPI | EFI   | BWI   | Milk<br>Index                   | BFat<br>R | BFat %<br>Index | Prot<br>Index | Prot %<br>Index | Som<br>Index | CalvInt<br>R | HLife<br>R | Test/lact.<br>1 2 3 | Nr.<br>Lact | ICP                       | Kg<br>Milk | Kg<br>BFat | %<br>BFat | Kg<br>Prot | %<br>Prot | Sire<br>Dam | Dam<br>BirthYr |  |  |
| Active Breed Average:                |                        |      | 8.73                    | 105               | 104 | 0.37  | -0.15 | 26                              | 5.2       | 0.04            | 4.1           | 0.03            | 102          | -0.8         | 103        |                     |             |                           |            |            |           |            |           |             |                |  |  |
|                                      |                        |      |                         |                   |     |       |       |                                 |           |                 |               |                 |              |              |            |                     |             |                           |            |            |           |            |           |             |                |  |  |
| Average (Herd):<br>Number:38         |                        |      | 3.96                    | 77                | 77  | -1.39 | -2.18 | -752                            | -26.2     | 0.04            | -25.7         | 0.00            | 90           | -4.6         | 92         |                     |             |                           |            |            |           |            |           |             |                |  |  |
| Cow Average (Breed):<br>Number:13232 |                        |      | 8.09                    | 101               | 100 | 0.08  | -0.26 | -48                             | 0.2       | 0.02            | 0.2           | 0.02            | 101          | -1.2         | 100        |                     |             |                           |            |            |           |            |           |             |                |  |  |

# Cows with Most Influence in the Herd

Cows with Most Daughters in Milk and with Most Lactations

Daughter EBVs > Dam EBVs  
 Daughter EBVs < Dam EBVs

| Farmnr<br>Regnr | Sire | Nr<br>Lact | Tot Daughts                     | Act Daughts                     | BREEDING VALUE- and SELECTION INDICES |      |      |     |       |        |      |       |     |     |
|-----------------|------|------------|---------------------------------|---------------------------------|---------------------------------------|------|------|-----|-------|--------|------|-------|-----|-----|
|                 |      |            | Birth Years<br>Total<br>In Milk | Birth Years<br>Total<br>In Milk | Milk                                  | BFat | Prot | BF% | Prot% | UdHlth | Fert | HLife | EFI | LMI |
| 1               |      |            | -                               | -                               | Cow EBVi:                             |      |      |     |       |        |      |       |     |     |
|                 |      |            |                                 |                                 | Dghts EBVi:                           |      |      |     |       |        |      |       |     |     |

# Heifers

Animals are sorted on farmer number within birth year

\*Inbreeding in red is high

Top 10% of the breed

Bottom 10% of the breed

Above breed average

R = Reliability

G = Genomically tested

M = Blended with sire's MACE (International) EBVs

GM = Blended with sire's GMACE EBVs

| Heifer                      |                        |      |                 | Selection Indices |     |     |     | Estimated Breeding Values (EBV) |                        |                |                        |                |                            |                           |                   | Pedigree |  |     |     |
|-----------------------------|------------------------|------|-----------------|-------------------|-----|-----|-----|---------------------------------|------------------------|----------------|------------------------|----------------|----------------------------|---------------------------|-------------------|----------|--|-----|-----|
| FarmNr<br>Regnr             | Parent<br>Verification | Name | % Inbr-<br>ding | LMI               | LPI | EFI | BWI | Milk<br>Index <i>R</i>          | BFat<br>Index <i>R</i> | BFat%<br>Index | Prot<br>Index <i>R</i> | Prot%<br>Index | Somatics<br>Index <i>R</i> | CalvInt<br>Index <i>R</i> | HLife<br><i>R</i> | Sire     |  | Dam | BYr |
| Breed Average:              |                        |      |                 |                   |     |     |     |                                 |                        |                |                        |                |                            |                           |                   |          |  |     |     |
|                             |                        |      |                 |                   |     |     |     | Year of Birth :                 |                        |                |                        |                |                            |                           |                   |          |  |     |     |
|                             |                        |      |                 |                   |     |     |     |                                 |                        |                |                        |                |                            |                           |                   |          |  |     |     |
|                             |                        |      |                 |                   |     |     |     |                                 |                        |                |                        |                |                            |                           |                   |          |  |     |     |
|                             |                        |      |                 |                   |     |     |     |                                 |                        |                |                        |                |                            |                           |                   |          |  |     |     |
| Average (Heifers in Herd):  |                        |      |                 |                   |     |     |     |                                 |                        |                |                        |                |                            |                           |                   |          |  |     |     |
| Number:                     |                        |      |                 |                   |     |     |     |                                 |                        |                |                        |                |                            |                           |                   |          |  |     |     |
| Average (Heifers in Breed): |                        |      |                 |                   |     |     |     |                                 |                        |                |                        |                |                            |                           |                   |          |  |     |     |
| Number:                     |                        |      |                 |                   |     |     |     |                                 |                        |                |                        |                |                            |                           |                   |          |  |     |     |

# Selection List: Logix Merit Index (LMI)

Animals are sorted on **LMI**

\*Inbreeding above 6.25 is high!

Top 25% of the herd

Bottom 25% of the herd

R = Reliability

Above breed average

Top 10% of the breed

Bottom 10% of the breed

| Cow Information |                    |                  |                |                   | Indices |     |             |             | Breeding Values |               |               |                 |                 |              |                  |            |                               |            | Pedigree |  |
|-----------------|--------------------|------------------|----------------|-------------------|---------|-----|-------------|-------------|-----------------|---------------|---------------|-----------------|-----------------|--------------|------------------|------------|-------------------------------|------------|----------|--|
| Rank            | FarmNr<br>CompNr   | Name             | Birth.<br>Year | % In-<br>breeding | LMI     | LPI | EFI         | BWI         | Milk<br>Index   | BFat<br>Index | Prot<br>Index | BFat %<br>Index | Prot %<br>Index | Som<br>Index | CalvInt<br>Index | HLife<br>R | Sire                          | Dam        |          |  |
| 1               | 2751<br>2011882087 | CAIRNBROGIE 2751 | 2007           | 4.39              | 89      | 85  | -0.62<br>93 | -2.80<br>66 | -501<br>87      | -16.0<br>56   | -18.1<br>90   | 0.04<br>51      | -0.01<br>83     | -1.5<br>101  | -0.8<br>37       | 101<br>102 | MORNINGVIEW DURHAM JINX-ET TV | 2309       |          |  |
| 2               | 2994<br>2012308850 | CAIRNBROGIE 2994 | 2009           | 3.52              | 85      | 81  | -0.96<br>89 | -2.98<br>64 | -432<br>89      | -30.2<br>49   | -12.4<br>82   | -0.13<br>46     | 0.02<br>88      | -1.8<br>103  | -3.2<br>32       | 101<br>106 | MORNINGVIEW DURHAM JINX-ET TV | ZBHW02214  |          |  |
| 3               | 2720<br>2011842289 | CAIRNBROGIE 2720 | 2007           | 3.52              | 85      | 81  | -1.05<br>87 | -2.98<br>64 | -165<br>96      | -34.8<br>55   | -10.6<br>79   | -0.27<br>49     | -0.05<br>90     | 6.1<br>95    | -5.5<br>35       | 103<br>111 | MORNINGVIEW DURHAM JINX-ET TV | ZBHW02214  |          |  |
| 4               | 2775<br>2011882111 | CAIRNBROGIE 2775 | 2007           | 6.25              | 84      | 79  | -1.56<br>81 | -0.96<br>89 | -575<br>85      | -28.9<br>36   | -19.6<br>83   | -0.06<br>34     | 0.00<br>81      | 5.3<br>97    | -8.2<br>28       | 110<br>116 | GANDY MTOTO FICTION-ET TL     | ZBHW2227   |          |  |
| 5               | 2990<br>2012302002 | CAIRNBROGIE 2990 | 2009           | 4.71              | 84      | 81  | -1.03<br>88 | -1.96<br>77 | -781<br>80      | -18.4<br>40   | -22.1<br>89   | 0.13<br>35      | 0.04<br>79      | 12.3<br>107  | -8.3<br>106      | 100<br>90  | MERRICKS HUGO ROBUST S1F      |            |          |  |
| 6               | 2722<br>2011842271 | CAIRNBROGIE 2722 | 2007           | 4.08              | 84      | 77  | -1.07<br>87 | -3.81<br>54 | -639<br>83      | -27.6<br>53   | -24.4<br>83   | -0.02<br>50     | -0.03<br>77     | -4.6<br>99   | -7.2<br>104      | 97<br>114  | MORNINGVIEW DURHAM JINX-ET TV | ZBHW0036   |          |  |
| 7               | 2605<br>62472782   | 2605             | 2006           | 4.29              | 82      | 85  | -0.64<br>92 | -2.02<br>76 | -1039<br>73     | -6.6<br>41    | -24.0<br>96   | 0.36<br>32      | 0.11<br>77      | 20.2<br>119  | -8.7<br>12       | 84<br>117  |                               | 22107      |          |  |
| 8               | 2502<br>61505491   | 2502             | 2005           | 3.80              | 82      | 83  | -0.96<br>89 | -1.76<br>79 | -624<br>84      | -18.4<br>54   | -19.2<br>89   | 0.06<br>50      | 0.02<br>82      | 12.9<br>103  | 0.6<br>90        | 98<br>99   | EXRANCO JAKE-ET               | 7014014208 |          |  |
| 9               | 2771<br>2011882145 | CAIRNBROGIE 2771 | 2007           | 5.18              | 82      | 77  | -1.39<br>83 | -2.25<br>73 | -602<br>84      | -30.3<br>56   | -21.4<br>82   | -0.06<br>51     | -0.01<br>79     | 5.3<br>97    | -7.5<br>96       | 102<br>114 | MORNINGVIEW DURHAM JINX-ET TV | 2325       |          |  |
| 10              | 2999<br>2012308876 | CAIRNBROGIE 2999 | 2009           | 3.21              | 82      | 79  | -1.17<br>86 | -2.24<br>73 | -946<br>75      | -19.6<br>23   | -26.6<br>88   | 0.18<br>21      | 0.05<br>74      | 13.1<br>109  | -10.6<br>12      | 97<br>120  | MERRICKS HUGO ROBUST S1F      | 7016754207 |          |  |
| 11              | 2767<br>2011882129 | CAIRNBROGIE 2767 | 2007           | 2.86              | 81      | 73  | -1.92<br>77 | -1.05<br>87 | -1039<br>73     | -30.1<br>52   | -29.4<br>82   | 0.12<br>49      | 0.06<br>72      | 15.2<br>106  | -16.8<br>109     | 118<br>132 | GANDY MTOTO FICTION-ET TL     | 2352       |          |  |
| 12              | 2789<br>2011918410 | CAIRNBROGIE 2789 | 2007           | 4.35              | 81      | 87  | -1.15<br>86 | -0.30<br>96 | 42<br>101       | -25.4<br>48   | -8.5<br>85    | -0.26<br>42     | -0.09<br>92     | 2.1<br>86    | 6.3<br>87        | 83<br>88   | KRULL BWM EVON                |            |          |  |
| 13              | 25112<br>62472691  | 25112            | 2005           | 1.71              | 81      | 80  | -1.17<br>86 | -1.90<br>77 | -878<br>77      | -20.8<br>52   | -23.0<br>88   | 0.15<br>47      | 0.07<br>78      | 12.7<br>108  | -15.6<br>110     | 85<br>90   | LEXY-LANE PROMISE LANCE-ET    | ZBHW0033   |          |  |
| 14              | 2612<br>62472857   | 2612             | 2006           | 4.29              | 79      | 79  | -1.15<br>86 | -1.86<br>78 | -1126<br>71     | -15.9<br>41   | -27.8<br>91   | 0.30<br>35      | 0.10<br>73      | 7.3<br>116   | -8.6<br>114      | 83<br>94   |                               | ZBHW02217  |          |  |
| 15              | 2983<br>2012301970 | CAIRNBROGIE 2983 | 2009           | 3.49              | 79      | 85  | -0.54<br>94 | -2.07<br>75 | -1074<br>72     | -7.2<br>45    | -20.0<br>96   | 0.37<br>41      | 0.16<br>81      | 20.7<br>120  | -4.9<br>84       | 71<br>109  | SPRINGHILL-OH NATHAN-ET       | 2203       |          |  |
| 16              | 2770<br>2011882137 | CAIRNBROGIE 2770 | 2007           | 3.11              | 79      | 83  | -1.66<br>80 | 0.48<br>106 | -22<br>99       | -30.7<br>54   | -13.2<br>82   | -0.28<br>48     | -0.11<br>87     | 0.8<br>85    | 4.2<br>99        | 88<br>92   | KRULL BWM EVON                | ZBHW9846   |          |  |
| 17              | 2966<br>2012304016 | CAIRNBROGIE 2966 | 2009           | 2.87              | 78      | 78  | -1.07<br>87 | -3.10<br>63 | -833<br>78      | -25.4<br>44   | -22.1<br>85   | 0.08<br>39      | 0.06<br>79      | 17.0<br>104  | -9.0<br>109      | 90<br>87   | MERRICKS HUGO ROBUST S1F      | 7015758217 |          |  |
| 18              | 2708<br>2011789381 | CAIRNBROGIE 2708 | 2007           | 3.86              | 78      | 85  | -0.94<br>89 | -1.50<br>82 | -478<br>88      | -15.2<br>54   | -21.1<br>91   | 0.03<br>48      | -0.05<br>80     | 33.5<br>93   | 0.3<br>74        | 92<br>99   | DE GRENDL STRIKER             | 2312       |          |  |
| 19              | 2988<br>2012303992 | CAIRNBROGIE 2988 | 2009           | 4.16              | 78      | 84  | -0.92<br>89 | -2.23<br>73 | -332<br>91      | -22.2<br>48   | -16.9<br>87   | -0.09<br>44     | -0.05<br>84     | 23.7<br>95   | -3.4<br>93       | 81<br>82   | MOET NANSEN-ET                | 2436       |          |  |
| 20              | 2987<br>2012301996 | CAIRNBROGIE 2987 | 2009           | 5.48              | 78      | 86  | -1.09<br>87 | -0.45<br>95 | -237<br>94      | -19.8<br>52   | -13.3<br>88   | -0.10<br>48     | -0.05<br>87     | 11.0<br>95   | 7.8<br>34        | 78<br>85   | CANYON-BREEZE ARMSTRONG TL TV | 64779333   |          |  |
| 21              | 2549<br>61500617   | 2549             | 2005           | 3.67              | 78      | 79  | -1.05<br>87 | -3.29<br>61 | -567<br>85      | -26.7<br>51   | -21.9<br>84   | -0.04<br>47     | -0.03<br>79     | 6.5<br>96    | 3.8<br>95        | 90<br>93   | EXRANCO JAKE-ET               | 7016648060 |          |  |
| 22              | 25110<br>62472675  | 25110            | 2005           | 3.20              | 77      | 79  | -1.43<br>83 | -0.97<br>88 | -871<br>77      | -18.1<br>48   | -28.7<br>89   | 0.16<br>43      | 0.00<br>72      | 13.1<br>108  | -7.1<br>100      | 85<br>90   | LEFT-MAC CHIEF BELL BOY       | ZBHW9907   |          |  |
| 23              | 2552<br>61500633   | 2552             | 2005           | 3.39              | 77      | 73  | -1.83<br>78 | -1.63<br>80 | -983<br>74      | -28.7<br>56   | -32.5<br>83   | 0.11<br>51      | 0.00<br>69      | 4.0<br>106   | -6.7<br>100      | 101<br>97  | EXRANCO JAKE-ET               | ZBHW979716 |          |  |

Selection List: **Logix Merit Index (LMI)**

Animals are sorted on **LMI** \*Inbreeding above 6.25 is high! Top 25% of the herd Bottom 25% of the herd R = Reliability Above breed average Top 10% of the breed Bottom 10% of the breed

| Cow Information |                     |                   |                |                   | Indices |     |             |             | Breeding Values |               |               |                 |                 |              |                  |            |                               | Pedigree   |  |
|-----------------|---------------------|-------------------|----------------|-------------------|---------|-----|-------------|-------------|-----------------|---------------|---------------|-----------------|-----------------|--------------|------------------|------------|-------------------------------|------------|--|
| Rank            | FarmNr<br>CompNr    | Name              | Birth.<br>Year | % In-<br>breeding | LMI     | LPI | EFI         | BWI         | Milk<br>Index   | BFat<br>Index | Prot<br>Index | BFat %<br>Index | Prot %<br>Index | Som<br>Index | CalvInt<br>Index | HLife<br>R | Sire                          | Dam        |  |
| 24              | 29117<br>2012334344 | CAIRNBROGIE 29117 | 2009           | 3.09              | 76      | 71  | -1.66<br>80 | -3.39<br>59 | -739<br>81      | -37.5<br>50   | -28.7<br>77   | -0.08<br>96     | -0.04<br>94     | 8.7<br>93    | -11.0<br>32      | 99<br>121  | MORNINGVIEW DURHAM JINX-ET TV | ZBHW9989   |  |
| 25              | 2550<br>61500625    | 2550              | 2005           | 3.63              | 74      | 73  | -1.47<br>82 | -3.58<br>57 | -905<br>77      | -28.3<br>52   | -35.1<br>49   | 0.08<br>104     | -0.05<br>93     | 15.2<br>88   | -5.6<br>34       | 94<br>111  | EXRANCO JAKE-ET               | 7016242856 |  |
| 26              | 2977<br>2012301921  | CAIRNBROGIE 2977  | 2009           | 2.01              | 73      | 77  | -1.30<br>84 | -2.37<br>72 | -914<br>76      | -26.0<br>48   | -23.8<br>43   | 0.11<br>106     | 0.07<br>110     | 21.6<br>83   | -10.9<br>26      | 75<br>121  | MOET NANSEN-ET                | 7015912533 |  |
| 27              | 2717<br>2011842263  | CAIRNBROGIE 2717  | 2007           | 4.35              | 73      | 80  | -1.00<br>88 | -3.01<br>64 | -788<br>80      | -20.0<br>43   | -26.3<br>38   | 0.12<br>106     | 0.00<br>100     | 36.0<br>72   | -2.8<br>24       | 86<br>105  | DE GRENDDEL STRIKER           |            |  |
| 28              | 2790<br>2011918386  | CAIRNBROGIE 2790  | 2007           | 4.35              | 72      | 72  | -2.28<br>73 | -0.30<br>96 | -698<br>82      | -33.7<br>48   | -32.9<br>41   | -0.06<br>97     | -0.09<br>87     | -3.3<br>103  | -1.3<br>25       | 89<br>102  | KRULL BWM EVON                |            |  |
| 29              | 2478<br>49197692    | 2478              | 2004           | 4.16              | 72      | 70  | -1.83<br>78 | -2.90<br>65 | -1052<br>73     | -28.4<br>46   | -41.8<br>43   | 0.14<br>107     | -0.07<br>90     | 5.0<br>96    | 2.5<br>30        | 99<br>95   | EXRANCO JAKE-ET               |            |  |
| 30              | 2511<br>61500740    | 2511              | 2005           | 3.17              | 71      | 74  | -1.37<br>84 | -3.59<br>57 | -792<br>79      | -32.2<br>52   | -26.7<br>48   | -0.01<br>99     | 0.00<br>100     | 22.3<br>83   | -2.9<br>34       | 87<br>105  | EXRANCO JAKE-ET               | 7016648102 |  |
| 31              | 2483<br>49197908    | 2483              | 2004           | 4.16              | 71      | 70  | -1.77<br>79 | -2.90<br>65 | -1104<br>71     | -29.9<br>52   | -37.2<br>47   | 0.15<br>108     | 0.00<br>100     | 16.7<br>87   | -3.2<br>30       | 97<br>106  | EXRANCO JAKE-ET               |            |  |
| 32              | 27140<br>70268602   | 27140             | 2007           | 4.35              | 71      | 70  | -1.96<br>76 | -1.97<br>76 | -1196<br>69     | -30.1<br>42   | -36.6<br>34   | 0.18<br>109     | 0.03<br>104     | 17.1<br>87   | -10.7<br>15      | 91<br>121  |                               | ZBHW9727   |  |
| 33              | 2976<br>2012301913  | CAIRNBROGIE 2976  | 2009           | 6.21              | 70      | 79  | -1.52<br>82 | -1.28<br>85 | -459<br>88      | -30.2<br>48   | -19.6<br>43   | -0.12<br>94     | -0.04<br>94     | 16.7<br>87   | -0.6<br>26       | 70<br>101  | MOET NANSEN-ET                | 2344       |  |
| 34              | 25106<br>62472998   | 25106             | 2005           | 2.60              | 69      | 61  | -2.20<br>74 | -4.67<br>44 | -1249<br>68     | -43.6<br>53   | -45.5<br>49   | 0.06<br>103     | -0.04<br>94     | 4.1<br>97    | -18.8<br>34      | 90<br>136  | LEXY-LANE PROMISE LANCE-ET    | ZBHW9410   |  |
| 35              | 2727<br>2011842305  | CAIRNBROGIE 2727  | 2007           | 4.35              | 67      | 77  | -1.22<br>85 | -3.01<br>64 | -912<br>76      | -21.1<br>40   | -32.0<br>42   | 0.16<br>108     | -0.02<br>97     | 48.8<br>62   | -0.6<br>28       | 87<br>101  | DE GRENDDEL STRIKER           |            |  |
| 36              | 2520<br>61500815    | 2520              | 2005           | 5.88              | 67      | 71  | -1.98<br>76 | -2.02<br>76 | -779<br>80      | -34.4<br>57   | -33.6<br>52   | -0.04<br>98     | -0.08<br>88     | 22.7<br>82   | 3.6<br>36        | 95<br>93   | EXRANCO JAKE-ET               | 7016512480 |  |
| 37              | 2476<br>49197676    | 2476              | 2004           | 4.16              | 66      | 66  | -2.09<br>75 | -2.90<br>65 | -1109<br>71     | -38.5<br>51   | -37.1<br>46   | 0.06<br>103     | 0.00<br>100     | 21.1<br>84   | -2.5<br>30       | 96<br>105  | EXRANCO JAKE-ET               |            |  |
| 38              | 2501<br>61500674    | 2501              | 2005           | 4.82              | 60      | 62  | -2.79<br>67 | -1.27<br>85 | -1163<br>70     | -44.6<br>55   | -41.4<br>50   | 0.02<br>101     | -0.03<br>96     | 11.6<br>91   | 0.9<br>37        | 89<br>98   | EXRANCO JAKE-ET               | ZBHW9914   |  |

# Herd: Extreme Cows per Trait

## Top Ranking Cows

| Breeding Values |      |           |       |            |      |          |       |          |      |          |      | Selection Indices |       |           |     |          |     |          |     |          |     |          |     |
|-----------------|------|-----------|-------|------------|------|----------|-------|----------|------|----------|------|-------------------|-------|-----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|
| Milk            |      | Butterfat |       | Butterfat% |      | Protein  |       | Protein% |      | Somatics |      | Calving Inter     |       | Herd Life |     | LMI      |     | LPI      |     | Weight   |     | EFI      |     |
| Farm nr.        | EBV  | Farm nr.  | EBV   | Farm nr.   | EBV  | Farm nr. | EBV   | Farm nr. | EBV  | Farm nr. | EBV  | Farm nr.          | EBV   | Farm nr.  | EBV | Farm nr. | Ind | Farm nr. | Ind | Farm nr. | Ind | Farm nr. | Ind |
| 2789            | 42   | 2605      | -6.6  | 2983       | 0.37 | 2789     | -8.5  | 2983     | 0.16 | 2722     | -4.6 | 25106             | -18.8 | 2767      | 118 | 2751     | 89  | 2789     | 87  | 25106    | 44  | 2983     | 94  |
| 2770            | -22  | 2983      | -7.2  | 2605       | 0.36 | 2720     | -10.6 | 2605     | 0.11 | 2790     | -3.3 | 2767              | -16.8 | 2775      | 110 | 2994     | 85  | 2987     | 86  | 2722     | 54  | 2751     | 93  |
| 2720            | -165 | 2708      | -15.2 | 2612       | 0.30 | 2994     | -12.4 | 2612     | 0.10 | 2994     | -1.8 | 25112             | -15.6 | 2720      | 103 | 2720     | 85  | 2983     | 85  | 2511     | 57  | 2605     | 92  |
| 2987            | -237 | 2612      | -15.9 | 2999       | 0.18 | 2770     | -13.2 | 25112    | 0.07 | 2751     | -1.5 | 29117             | -11.0 | 2771      | 102 | 2775     | 84  | 2751     | 85  | 2550     | 57  | 2988     | 89  |
| 2988            | -332 | 2751      | -16.0 | 27140      | 0.18 | 2987     | -13.3 | 2977     | 0.07 | 2770     | 0.8  | 2977              | -10.9 | 2552      | 101 | 2990     | 84  | 2708     | 85  | 29117    | 59  | 2708     | 89  |
| 2994            | -432 | 25110     | -18.1 | 2727       | 0.16 | 2988     | -16.9 | 2767     | 0.06 | 2789     | 2.1  | 27140             | -10.7 | 2751      | 101 | 2722     | 84  | 2605     | 85  | 2549     | 61  | 2994     | 89  |
| 2976            | -459 | 2990      | -18.4 | 25110      | 0.16 | 2751     | -18.1 | 2966     | 0.06 | 2552     | 4.0  | 2999              | -10.6 | 2994      | 101 | 2605     | 82  | 2988     | 84  | 2966     | 63  | 2502     | 89  |
| 2708            | -478 | 2502      | -18.4 | 2483       | 0.15 | 2502     | -19.2 | 2999     | 0.05 | 25106    | 4.1  | 2966              | -9.0  | 2990      | 100 | 2502     | 82  | 2502     | 83  | 2727     | 64  | 2717     | 88  |
| 2751            | -501 | 2999      | -19.6 | 25112      | 0.15 | 2775     | -19.6 | 2990     | 0.04 | 2478     | 5.0  | 2605              | -8.7  | 29117     | 99  | 2771     | 82  | 2770     | 83  | 2717     | 64  | 2990     | 88  |
| 2549            | -567 | 2987      | -19.8 | 2478       | 0.14 | 2976     | -19.6 | 27140    | 0.03 | 2775     | 5.3  | 2612              | -8.6  | 2478      | 99  | 2999     | 82  | 2990     | 81  | 2720     | 64  | 2549     | 87  |

## Bottom Ranking Cows

| Breeding Values |       |           |       |            |       |          |       |          |     |          |      | Selection Indices |      |           |     |          |     |          |     |          |     |          |     |
|-----------------|-------|-----------|-------|------------|-------|----------|-------|----------|-----|----------|------|-------------------|------|-----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|
| Milk            |       | Butterfat |       | Butterfat% |       | Protein  |       | Protein% |     | Somatics |      | Calving Inter     |      | Herd Life |     | LMI      |     | LPI      |     | Weight   |     | EFI      |     |
| Farm nr.        | EBV   | Farm nr.  | EBV   | Farm nr.   | EBV   | Farm nr. | EBV   | Farm nr. | EBV | Farm nr. | EBV  | Farm nr.          | EBV  | Farm nr.  | EBV | Farm nr. | Ind | Farm nr. | Ind | Farm nr. | Ind | Farm nr. | Ind |
| 25106           | -1249 | 2501      | -44.6 | 2770       | -0.28 | 25106    | -45.5 | 25106    | 0   | 2727     | 48.8 | 2987              | 7.8  | 2976      | 70  | 2501     | 60  | 25106    | 61  | 2770     | 106 | 2501     | 67  |
| 27140           | -1196 | 25106     | -43.6 | 2720       | -0.27 | 2478     | -41.8 | 2478     | 0   | 2717     | 36.0 | 2789              | 6.3  | 2983      | 71  | 2476     | 66  | 2501     | 62  | 2790     | 96  | 2790     | 73  |
| 2501            | -1163 | 2476      | -38.5 | 2789       | -0.26 | 2501     | -41.4 | 2501     | 0   | 2708     | 33.5 | 2770              | 4.2  | 2977      | 75  | 2520     | 67  | 2476     | 66  | 2789     | 96  | 25106    | 74  |
| 2612            | -1126 | 29117     | -37.5 | 2994       | -0.13 | 2483     | -37.2 | 2483     | 0   | 2988     | 23.7 | 2549              | 3.8  | 2987      | 78  | 2727     | 67  | 27140    | 70  | 2987     | 95  | 2476     | 75  |
| 2476            | -1109 | 2720      | -34.8 | 2976       | -0.12 | 2476     | -37.1 | 2476     | 0   | 2520     | 22.7 | 2520              | 3.6  | 2988      | 81  | 25106    | 69  | 2478     | 70  | 2775     | 89  | 2520     | 76  |
| 2483            | -1104 | 2520      | -34.4 | 2987       | -0.10 | 27140    | -36.6 | 27140    | 0   | 2511     | 22.3 | 2478              | 2.5  | 2789      | 83  | 2976     | 70  | 2483     | 70  | 25110    | 88  | 27140    | 76  |
| 2983            | -1074 | 2790      | -33.7 | 2988       | -0.09 | 2550     | -35.1 | 2550     | 0   | 2977     | 21.6 | 2501              | 0.9  | 2612      | 83  | 27140    | 71  | 2520     | 71  | 2767     | 87  | 2767     | 77  |
| 2478            | -1052 | 2511      | -32.2 | 29117      | -0.08 | 2520     | -33.6 | 2520     | 0   | 2476     | 21.1 | 2502              | 0.6  | 2605      | 84  | 2483     | 71  | 29117    | 71  | 2501     | 85  | 2478     | 78  |
| 2767            | -1039 | 2770      | -30.7 | 2775       | -0.06 | 2790     | -32.9 | 2790     | 0   | 2983     | 20.7 | 2708              | 0.3  | 25110     | 85  | 2511     | 71  | 2790     | 72  | 2976     | 85  | 2552     | 78  |
| 2605            | -1039 | 2771      | -30.3 | 2771       | -0.06 | 2552     | -32.5 | 2552     | 0   | 2605     | 20.2 | 2976              | -0.6 | 25112     | 85  | 2478     | 72  | 2550     | 73  | 2708     | 82  | 2483     | 79  |

**Herd: Extreme Heifers per Trait**

## Top Ranking Heifers

| Breeding Values |     |           |     |            |     |          |     | Selection Indices |     |          |     |               |     |           |     |          |     |          |     |          |     |          |     |
|-----------------|-----|-----------|-----|------------|-----|----------|-----|-------------------|-----|----------|-----|---------------|-----|-----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|
| Milk            |     | Butterfat |     | Butterfat% |     | Protein  |     | Protein%          |     | Somatics |     | Calving Inter |     | Herd Life |     | LMI      |     | LPI      |     | Weight   |     | DFI      |     |
| Farm nr.        | EBV | Farm nr.  | EBV | Farm nr.   | EBV | Farm nr. | EBV | Farm nr.          | EBV | Farm nr. | EBV | Farm nr.      | EBV | Farm nr.  | EBV | Farm nr. | Ind | Farm nr. | Ind | Farm nr. | Ind | Farm nr. | Ind |
|                 |     |           |     |            |     |          |     |                   |     |          |     |               |     |           |     |          |     |          |     |          |     |          |     |

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### Bottom Ranking Heifers

[illegible]

## Single Gene Traits

Empty field = Information not available

[illegible]

