

30 YEARS with Nordic breeding profile

Page 4

10



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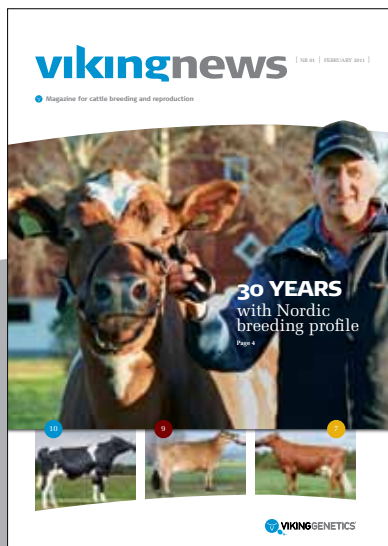


By manager, VikingGenetics International, Sara Wiklert Petersson

The invisible cow

A dairy farmer once told me that the best cow is the anonymous cow - the cow that is just there doing her job, without getting sick or having any problems. The invisible cow. That is actually a good way to describe the breeding goal in VikingGenetics where we follow NTM – Nordic Total Merit. We breed for a cow that does her job, gives milk with high components, breeds back and calves easily, stays healthy – so you are the one making the decision when it is time for her to leave – not her. A profitable cow – it is our breeding goal no matter if we are talking Holsteins, Jerseys or Reds. We have a unique possibility to breed for those traits because of the excellent data in the national cow database, a possibility that is even more efficiently utilized with the genomic selection.

Right now you are reading the very first news magazine from VikingGenetics in English. We hope you like it and you are welcome to contribute with small stories from all over the world to our editor Poul Bech Sørensen at pbs@vikinggenetics.com

vikingnews

LAYOUT AND PRODUCTION: Mediegruppen as, Denmark (16550)

PRINT: Jørn Thomsen/Elbo A/S, Denmark

PHOTOS: Elly Geverink, Elisabeth Theodorsson, Tiina Tahvonen and employees by VG



Contents

MAGAZINE NO. 01 | FEBRUARY 2011 | VOLUME 1

30 years with Nordic breeding profile

Christer Samuelsson, Juby Gård in Östergötland in Sweden, has for 30 years followed the Nordic breeding goal with the total merit index. 13 out of 100 bulls sold to AI centres have become elite bulls and new hot Holstein bull from Juby Gård is J Rox (Mascol x Lancelot).

PAGE 4

News about Viking sires

Gunnarstorp has improved to NTM+22. Gunnarstorp's second crop of daughters is now milking and looks great. We get many positive comments about both looks and performance.

PAGE 7

The favourite family delivers top genetics

Morten Agger (32) runs a cattle farm in the north of Denmark with 200 Holstein cows. With genomic selection it has turned out that there is very good genetic material in the herd. "The cow families I have always valued the most and believed in, are those with the best genomic tests", Morten Agger points out.

PAGE 12

Impressed by Danish Jerseys

In January, 18 Jersey representatives from Select Sires, USA, visited Denmark to learn more about our Jersey programme and see our cows and herds for themselves. The group was very impressed. "The Danish Jersey breed has been effectively selected for those traits that will improve the profitability of dairy producers. Selection for genetic improvement is balanced with maintaining genetic diversity so that inbreeding does not become a problem", dairy sire analyst Herby Lutz reports.

PAGE 14

Most popular sires in 2010

D Orange was the most popular Holstein sire from VikingGenetics with 103,850 sold doses. By the red breeds R Facet was the most used in the three Viking countries in 2010 where as Peterslund and Gunnarstorp were the most popular on the international markets. By Jersey, Impuls impresses with 76,000 exported doses followed by Zuma as a sovereign number two.

PAGE 18

vikingnews

Genomic selection	10
Finnish herd investing for the future	13
Satisfied PROCROSS customers	16
Partnership with PH KONRAD in Poland	17
Short News	19
Index for milking speed with higher reliability	20
Breed for better female fertility	21
Healthier offspring from sires with high index	22
Our international team	23



30 YEARS

with Nordic breeding profile

By editor Poul Bech Sørensen

Christer Samuelsson, Juby Gård in Östergötland in Sweden has for 30 years followed the Nordic breeding goal with the total merit index. 13 out of 100 bulls sold to AI centres have become elite bulls and new hot Holstein bull from Juby Gård is J Rox (Mascol x Lancelot).

With more than 100 bulls sold to primarily Semin Avel, Svensk Avel, VikingGenetics and Germany, Christer Samuelsson (57) is one of the largest suppliers of genetics to the AI Centres. 13 out of these bulls have become elite bulls which is very remarkable. The most famous ones are the Holstein bulls J Loby, J Lots, J Don and J Rox and the SRB bulls J Valon, J Valör and J Valter.



At the farm there are 150 cows; 60% Holstein and 40% SRB. Christer has always followed the Nordic breeding goal – previously the Total Merit Index and now the NTM. His personal goals are:

- Progeny need to be better than mother both regarding conformation and traits with low heritability
- To make money on the cows
- The cows should be easy to handle with fast milking speed
- Less possible problems with the cows
- Extra weight on udder and feet & legs – especially for SRB

Christer does not weight the body of the cows very high – actually it is important to him that they are not too big. “Big and heavy cows give more problems in a freestall barn like ours – at the same time they require more feed for maintaining their body. Big cows are simply too expensive”.

Uses X-Vik and GenVikPLUS strategically

Fertility is generally no problem, and Christer finds no significant differences between Holstein and SRB. The calving interval is 12.5 months (SRB 12.2 and HOL 12.7). In average there are 1.7 services per pregnancy for cows and 1.4 services for heifers. So far he has used 50 doses of X-Vik and the pregnancy results have been satisfactory. “A curio is that the first calf born after X-Vik was a bull calf, but since then only heifer calves have been born”, Christer says and smiles. For Holstein primarily X-Vik from GenVikPLUS bulls has been used and for the reds primarily R Facet and R David.

Sells many heifers for breeding

GenVikPLUS bulls are used strategically on animals with the highest NTM index. Due to the wide use of X-Vik, we have a surplus of heifers that we can easily sell. Two years ago we made an auction and sold 42 heifers at a high price”, Christer stresses. He believes that the high prices are caused by the consistency in the breeding goal and the venture to buy embryos from famous cow families in Sweden, Denmark, Canada and Germany.

For SRB it has primarily been embryos from Viken and for Holstein Tirs vad Jeanette and Patron Claire have done excellently in the herd.

From Canada embryos from good Ayrshire cows have been imported – but the progeny has always been inseminated with SRB bulls.

Nordic bulls = conformation and longevity

The fact that you can easily get fine conformation cows from using primarily Nordic bulls, Juby Gård is a good example. The classification average is high (84 for Holstein and 81 for SRB) and 12 cows have over the years been classified Excellent. Seven of those are still in the herd. The fact that the Nordic breeding goal also gives lasting

Facts Juby Gård

150 cows – 85 Holstein and 65 SRB
320 ha field, 60 ha permanent grass and 150 ha forrest
Average NTM: HOL 10.9 - SRB 10.0
Yield: HOL 11,400 kg ECM – SRB 10,700 kg ECM
12 Excellent cows
12 100,000 kg cows
Average cell count: 200,000
Calving interval 12.5 months

cows is proven by 12 cows passing 100,000 kg milk. Three of those cows still milk and are still going strong.

For Holstein GenVikPLUS bulls are used extensively. Furthermore Christer uses the following elite bulls at the moment:

VikingRed	Holstein
Ullimulli	D Skotte
Unyrkki	D Etoto
Tosikko	D Rødding
R Facet	Björkil
Nora Prästgård	
A Linné	

Influential bulls

When it comes to the question which bulls have done best in Juby Gård, Christer points out:

SRB

- Orraryd: excellent udder quality. Cows of good longevity – also after 4-5 calvings.
- Hällvik: durable, long-living cows
- B Jurist: Robust and durable cows

Holstein

- Häradsköp: very durable and functional cows
- T Funkis: Udder, feet & legs and health = longevity
- S Rudolph: Prime health
- O-Man: Healthy and durable cows
- V Elo: Good all-round cows – also udders are fine

Selected breeding cows on Juby Farm



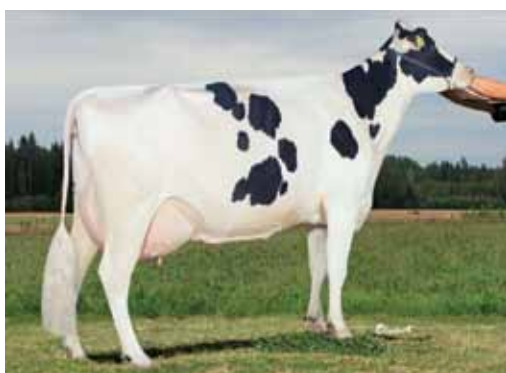
1046 Vera EX90 (Hällvik x Pardner)
- dam of 3-2985 VR Gimli.



1111 Mode EX90 (Orraryd x Pardner)
- dam of 3-2866 VR Alex.



1135 Maicum EX91 (Oman Justi x V Bojer)
- dam of bull calf after S Ross - for genomic test.



1201 Hjärtros EX90 (V Elo x S Rudolf)
- dam of bull calf after D Ole - for genomic test.

7 incisive questions to Christer Samuelsson

Christer Samuelsson is an elected member in VikingRed committee and Husdjur Sverige committee.

What is the most positive with VikingGenetics?

VG has resulted in a boost for Holstein in Sweden with a significantly larger and wider selection of elite bulls. For SRB the population had to be expanded, and Finland can contribute to this. The screening and selection of young bulls has become more stringent and systematized.

Can you point out anything negative about VG?

Some cattle breeders in Sweden find it difficult to get semen after top sires. Therefore I recommend spreading the use of bulls and choose bulls lower down the top list. The real difference between the best bulls is minor. With more use of GenVikPLUS sires in the future the problem with semen supply will be minor.

How do you consider the challenges of working across the countries?

Regarding the language it is a challenge to us – the elected members. But luckily this will not affect the cattle breeders. All the material presented to the cattle breeder in the three Viking countries is in his own language.

What do you think of the new organizational changes in VG?

In a large organization like VG it is important that we listen to the cattle breeders. It is important that we have committed employees – and that they have knowledge on the breeds. We have had skilled managers, but change and new ideas are good.

Is there anything that we can do better in VG?

It is important the ALL elected members are committed locally – e.g. in

clubs, breeding associations, erfa-teams and in meetings where we can explain the cattle breeders about VG, discuss and bring their opinions to the board of delegates and the board of directors. We – the elected members – are very important ambassadors, and we are obliged to be loyal to VG.

How do we obtain reliable registration in the future in the still increasing herds?

The milk recording is alpha and omega. Without reliable registration, no reliable breeding values. Therefore continuous development in cooperation with both Viking and the national associations is important. An example is the development of the prints of “Key figures breeding” and “Lifetime production”. The milk recording must be flexible and develop tools for management requested by the cattle breeders.

How will the red breeds do in the competition from Holstein in the long term?

The economically superior breeds will manage in the long term. If we see higher settlement regarding the content of fat and protein in milk, this will be advantageous to the Scandinavian Red breeds. The red cow must be super efficient. In VG we need to test more red bull calves than with Holstein to find the absolute best in order to compensate for the smaller reference group. We need to have great weight on udder and percentage in milk. The red breeds have high feed efficiency and easy calvings which contributes positively to the financial result. FAY has the highest production, Danish Red the best mammary and SRB somewhere in between. If we combine the best from all three countries, we have a strong alternative to Holstein – both concerning pure breeding and cross breeding. ●

PBS



D Etoto is breed leader for feet & legs (130) combined with superior general health, calving ease and lots of milk.



With 82,000 doses R Facet was the most popular red sire in the Viking home markets in 2010. He's a great all-round sire with super conformation.

News about VIKING SIREs

By editor Poul Bech Sørensen

Viking Red

SRB – Swedish Red

The spring is slowly coming to the Viking countries - the days are getting longer and the sun starts to warm again. In the pipeline of SRB sires we find some interesting bulls for the spring though, such as two O Brolin x Peterslund sons of which one of them has already been used as a GenVikPLUS sire on the domestic market and his progeny proof confirms his excellence.

G Edbo (Botans x Syd Abru) is still in the top with NTM +29 which is an increase with one NTM unit, due to an even better longevity proof. We have X-Vik sexed semen available.

V Föske (Miqur x Gårdö) is still second on NTM +25 – he is a great example of Nordic breeding, Miqur is a Finnish sire and Gårdö is a Swedish bull with a Danish sire. V Föske comes from the Swedish Viken herd, the dam Viken Föske Lilja was an elite donor in the nucleus herd and in the cow family behind both grand dam and great grand dam have produced more than 75 000 kg. V Föske transmits high production in combination with high daughter fertility. The daughters are robust with well attached udders with strong center support.

Gunnarstorp (Kan Kelli x SYD Abru) has improved to NTM+22. Gunnarstorp's second crop of daughters is now milking and looks great, many

positive comments about both looks as performance. Today 618 daughters are included in his proofs and more than 180 daughters classified. Gunnarstorp is a true all-round transmitter, bringing both production, fertility, health and calving ease as well as longevity and excellent feet and legs and udders. No surprise he was the second most exported red bull 2010 with 42 000 straws to 13 countries.

S Adam (Botans x Tor Bruno) has second crop of daughters in production and his NTM has raised one unit to +21. S Adam gives high components and is a great udder health improver. S Adam has now 660 daughters in the proofs, which is more than 400 more compared to November. The legs are sickled and not as parallel, so use him on the right cows. Longevity is great 112.

A Linné (Orraryd x SYD Abru) - the number one udder specialist in the Swedish Red breed has now NTM +19. Remarkable is that the dam to A Linné and 2112 Arbelunda is still alive! She is soon 12 years old. Linné also transmits excellent daughter fertility, easy calvings and good longevity. A Linné was the second most used bull domestically in 2010.

RDM – Danish Red

R Fastrup (Orraryd x Stadel) with NTM +28 is in top for feet & legs as well as female fertility.

R Gold (Peterslund x Vest Top) at NTM +25 has excellent health and fertility traits - only weakness is his slow milking speed.

R Facet (Jerry x Vättergård) with NTM +23. He has figures for all conformation traits and is a true all-round sire

R David (T Bruno x FYN Aks) fell some NTM units to +21, but he is fine for almost all other traits, and our best sire in longevity.

R Haslev (Orraryd x SYD Garant) with NTM +21 has good calving traits and functional traits – in particular milking speed.

R Gorm P (Lien x Backgård) has earlier been used intensively and with NTM +19 will do a comeback. He breeds polled calves and has very fine udder health.

New interesting Danish Red sires to be mentioned are: Haiti, Galleri, Hen-



Second crop Gunnarstorp daughters are now milking and they look great!



Group of D Jul daughters at Agromek 2010.

rik, Glossy, Grimsby, Hammel and Harley. Several of these are by Ascona and Bahama.

Finnish Ayrshire

No major changes in the proofs this time and the same bulls continue.

Asmo Ullimulli (Lindero x Eskil) NTM +21 is a true allround sire with



Asmo Ullimulli - a true allround sire with super daughter fertility, calving ease, health, feet & legs, mammary, temperament and milking speed.

super daughter fertility, calving ease, health, feet & legs, mammary, temperament and milking speed.

Asmo Tosikko (Lammin Life x Rist Johde) keeps his NTM at + 23. Very high components combined with super udders and udder health.

Salintuvan Uhkasakko is a new Orkko son in Ayrshire breed from Finland with NTM +19. Uhkasakko is a good example of the Viking co-operation. The dam Suhinalempi is a nice GP82 Peterslund daughter, who had a best 305 lactation with 10556 kg of milk, 4.5 % fat and 3.9 % protein. Also Uhkasakko excels in components with fat-% index 107 and protein-% index 117. The daughters of Uhkasakko are very functional combined with good udder health and fertility. He is also calving ease bull with calving ease index 113 and calving index 106 – so a perfect choice for heifers.

Holstein

At the latest proofs in February 2011 there was a high degree of stability in the sire indexes.

D Oscar (Oman x Juote) is still at the top and this time climbs one index unit to NTM +35. The increase is due to more yield and faster milking speed. Excellent udders and udder health.

D Limbo (Lancelot x Funkis) keeps his NTM +32 and improves milking speed. Super health, female fertility and calving ease. Impressing production with high components D Jul and S Ross are the greatest winners. Both climbs by two NTM units to +30 and +29, respectively.

D Jul (S Jordan 3 x Riverland) now has 58 classified daughters and increases his NTM due to even better conformation – especially feet & legs and mammary.



R Haslev has good calving and functional traits – in particular milking speed. Actual sire of sons in VikingGenetics.

S Ross increases NTM to +29 due to improvement for yield, health and female fertility.





Rakuuna second crop daughter group at Agromek 2010.

S Ross (Chassee x Funkis) increases NTM to +29 due to improvement for yield, health and female fertility.

D Etoto (V Exces x VAR Calano) is breed leader for feet & legs (130) combined with superior general health, calving ease and rivers of milk. Etoto breeds positive mammary – negative for Exces.

D Orange (Oman x Funkis) is breed leader for health – both udder health (118) and general health (124). High protein, strong feet & legs and positive daughter fertility. Excellent choice for heifers – calving ease 113.

Björkil (Oman x BW Marshall) is absolute breed leader for production with production index 137. High components combined with lots of milk and calving ease (116).

D Sol (Shottle x Funkis) combines excellent conformation with super easy calvings (117). BY carrier.

D Skotte (Shottle x TVM Hesne) has special strengths for yield and conformation, and therefore he will be an excellent choice for breeders with focus on conformation.

Rakuuna (T Lambada x Goldfinger) unfortunately has an injury and is not in semen production at the moment. We have 5000 doses available for export. We hope to see him in semen production in a couple of months, but if not his highly genomically tested sons are already ready as GenVikPLUS sires!

New Holstein sires

New bull is **J Rox** (Mascol x Lancelot x BW Marshal) with NTM +25. His

genomic result is sky high – now he has milking daughters that fulfill our expectations also. Production index 125 with extremely high protein – 127. Positive daughter fertility combined with calving ease and very functional conformation.

Viikinki (Alves x Hairbreiz) is an interesting outcross bull – NTM +21. He is in semen production and plenty of semen available. Female fertility expert combined with high production, good udders and positive calving ease. Protect him for milking speed.

Jersey

New interesting jersey sires are DJ Bindy and DJ Lix.

DJ Bindy has an alternative pedigree so he combines well with most pedigree lines and with the most used pedigree lines. His sire line is: DJ Belle x SKÆ Balter x JAS Bregne x FYN Bov x FYN Haug x SKÆ Max – far from the Lemvig and Q Impuls pedigree.

DJ Bindy has 62% Danish genes, 37% US and 1% NZ. The sire has very high fat index and production index of 120. Udder health 114 and fertility 110 should also be emphasized. As regards conformation DJ Bindy is just below medium.

DJ Lix also has alternative pedigree, however known pedigree since both DJ Lirsk, Brumle BI and JAS Dixi are from the same cow family. His sire line is: Q Lor x Q Zik x ØDA Rix x FYN Lemvig x FYN Tanic x SKÆ Idyl – plenty of Lem-

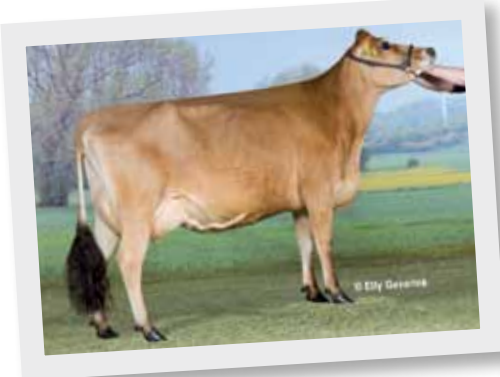
vig/Lester, but no Impuls in the pedigree.

DJ Lix breeds high components and not that high milk quantity. Daughters are barely medium sized, average feet & legs and superb mammary. Udder health and milk production traits are also in top.

DJ Lix is a good choice for daughters after DJ Jante, DJ Jason, DJ Imun, DJ Kars and DJ Beo. Unfortunately there will be shortage of semen for a brief period of time since he has just begun semen production.

The well known sires like **DJ Zuma** (Q Zik x FYN Lemvig), **DJ Hulk** (Q Handix x FYN Lemvig), **DJ Jante** (M Jace x ØDA Rix), **DJ Jason** (M Jace x Q Lic), **DJ Izzy** (Q Impuls x Q Zik), and **DJ Zaga** (Q Zik x FYN Lemvig) keep up their proofs very well.

Q Impuls, **Q Hirse**, **DJ May**, **DJ Topholm** and **DJ Lirsk** are all sires with thousands of second crop daughters milking by satisfied dairy farmers all over the world. ●



DJ Zuma is one of the most popular Jersey sires from the VikingGenetics breeding programme.



Genomic selection

– how far are we?

By breeding manager Lars Nielsen

It has now been 2½ years since VikingGenetics got the first genomic indexes of Holstein animals based on the 54K chip (54,000 DNA markers). In summer 2009 we followed with genomic indexes for jersey and red breeds – and since then it has developed fast.

The use of genomic selection

Today we have genomic indexes every two months with the results of:

- bull calves – tested with a view to possible purchase to our breeding programme
- female animals – for which either we in VikingGenetics or the owner himself will do ET.

When we receive the genomic breeding values, we evaluate all animals in each breed across the countries, and decide which bulls to purchase – at the mo-

ment one out of five. At the same time we decide which of the tested female animals to be flushed – and send a flushing contract to the owner.

The same number of times – i.e. six times annually – we have deadlines for the decision of which animals to test.

Official blended indexes – hopefully in May

So far all the genomic indexes have been unofficial and not available to the cattle breeders. In nearest future this system will change and we will have



The highest genomic proven test bulls are labelled as GenVikPLUS sires. On average the GenVikPLUS sires have higher breeding values than the best proven bulls. In our three domestic markets 50% of the semen usage are either testbulls or GenVikPLUS bulls

official blended indexes including both genomic and pedigree information. Therefore we hope that official blended indexes will be available in May at the same time as the NAV breeding values. This will increase the use of younger top sires, but we still recommend using a large number of GenVikPLUS bulls – this recommendation will not change though the indexes are official!

Influence on the breeding plan

The introduction of genomic selection has already reduced the number of young bulls in VikingGenetics by app. 30% for Holstein and a minor reduction for SRB, Finnish Ayrshire and RDM. Due to the size of the population jersey finds it hard to reduce the number of test bulls further, since they need new bulls and pedigree in the jersey reference group.

VH Robot (Rakuuna x D Stilist) from Nötcenter Viken is a current GenVikPLUS-sire. Super health, longevity and mammary.



"When the genomic information is official, it will be easier to select GenVikPLUS for the mating plans, and for Holstein we expect that the use of GenVikPLUS sires will take over large parts of the market."

International co-operation

Genomic selection is connected to a huge number of costs for tests and development. Therefore it is beneficial if more cows can share the costs - and at the same time obtain better results. Therefore VikingGenetics has joined its forces with partners in Germany, France and Holland and together has formed EuroGenomics being the foundation of a joint reference group for Holstein bulls with more than 18,000 bulls as it is today and thus being the world's largest. The introduction of the EuroGenomics reference group meant a 10% higher reliability for Holstein.

For VikingRed we have just entered into a collaboration with Norwegian Geno on a joint reference group of in total 8,000 bulls – the largest global reference group for red breeds.

The future

The future will surely still offer further significant changes in the breeding plan and the use of genomic selection. We have just introduced a new chip of 800,000 markers (800K) and this will probably be routine in future. We are already sequencing individual animals – i.e. determine all genes in the animal. The extend of the use of the 800K and how we can benefit, only the future can tell us. But in the light of the changes the recent years, reality will probably exceed our wildest dreams! ●



Geno and VikingGenetics in close collaboration

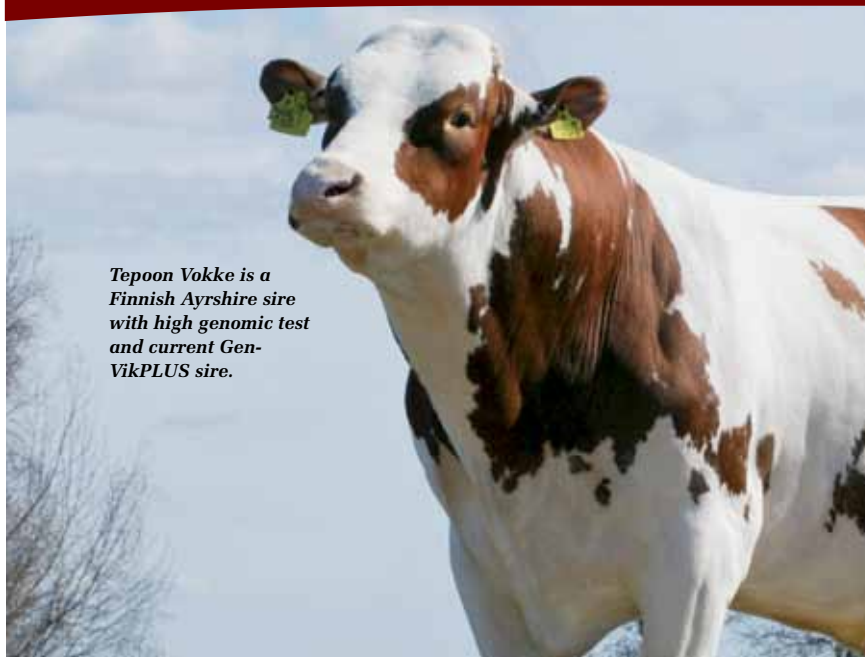
Norwegian Geno SA and VikingGenetics have entered a close collaboration in the field of genomic selection for the red breeds from Scandinavia to achieve better genomic evaluation results. Future genomic breeding values will be based on more than 8000 red reference bulls – the largest global reference population for red breeds.

Genomic selection based on effective registration systems gives Geno and VikingGenetics unique opportunities. The red breeds from Scandinavia are globally known for their sustainable breeding programmes emphasizing functional traits. By using new technology, such as genomic selection, we can continue to offer semen of bulls with highly improved health, longevity and economic profitability.

During the spring 2011 genomic breeding values for the red breeds from Scandinavia – Finnish Ayrshire, Swedish red (SRB), Danish Red (RDM) and Norwegian red (NRF) will be evaluated based on more than 8000 reference bulls and data from the four national cattle databases. By investing in the best available genotyping tools, this collaboration is expected to lead to further development of selection for functional traits such as fertility, mastitis resistance and calving ease.

The red breeds from Scandinavia are showing superior results for functional traits in crossbreeding and this collaboration will further increase the market value for the red breeds in Scandinavia in crossbreeding programmes all over the world.

Developments in genomic selection for the respective partners are in close collaboration with our research partners the Norwegian University of Life Sciences, Nordic Cattle Genetic Evaluation (NCGE) and Aarhus University, Foulum, Denmark in cooperation with MTT, Finland and SLU, Sweden.



Tepoon Vokke is a Finnish Ayrshire sire with high genomic test and current GenVikPLUS sire.

The favourite family delivers top genetics

Morten Agger (32) runs a cattle farm in the north of Denmark with 200 Holstein cows and 230 ha of land. The farm is relatively new and there is plenty to do. However, they have energy to be interested in breeding. First and foremost because they can benefit financially from using good genetic material, but also because Morten is interested in breeding.

With genomic selection it has turned out that there is very good genetic material in the herd and thus he managed to sell bulls to VikingGenetics. Actually it is those families that Morten always has valued the most and has believed in that have made the best tests.

Cow 2522 (O Zenith x V Exces 2235 x V Bojer 1921 x Esquimau 1600) is Morten's favourite family and all cows

have been among the five highest yielding in the herd. Cows 2235 and 1921 still milk well – both with an average over 12,000 kg ECM. Cow 2522 has an S Ross bull accepted by VikingGenetics and furthermore he has made a contract of flushing her – with the GenVikPLUS bull VH Cadis.

From the same family the heifer calf 2972 (V Ole) has been tested – half-sister to cow 2522. Morten still awaits the result of the test. The bull calf 3119 (VH Gorm x Mascol x V Elo X V Bojer) is also to be tested, and the results are awaited in anticipation.

Breeding goal and reproduction

Morten determines the breeding strategy in the herd in cooperation with his breeding advisor Thomas Lind from Vi-

kingDanmark. It is important to have the advisor as your sparring partner – in particular after the introduction of genomic selection, and Morten leaves the purchase of semen including GenVikPLUS bulls to Thomas Lind based on the breeding goal

1. Mammary
2. Longevity
3. Milking speed
4. Feet & legs and hoofs
5. Udder health

Mammary is important and longlasting cows give better economy. With robot milking high milking speed is an important trait.

Furthermore, Morten runs a heifer hotel of 250 heifers at the neighboring farm. He installed a Heatime system there. The reproduction in the heifer hotel is very good with better reproduction efficiency than for the heifers at his own farm. Out of the latest 72 pregnancy examinations there were 69 pregnancies! And therefore Morten considers purchasing Heatime for the heifers in his farm. "Even if I have it under control and do careful heat observation, I must admit that Heatime is better. After all I am not in the barn 24 hours a day," Morten Agger finishes happily.



With genomic selection it has turned out that there is very good genetic material in the herd of Morten Agger, Denmark, and thus he managed to sell several bulls to VikingGenetics.

"The cow families I have always valued the most and believed in, are those with the best genomic tests."

*Morten Agger, Denmark,
200 Holstein cows*

Finnish herd investing for the future

In Viking we have recently started producing semen with the first bull from the herd of **Markku Lallukka** and **Anuriikka Rytönen, Finland**. The bull got the name Metsäpellon Tosikko Taito and is a son of the Finnish Ayrshire bull Tosikko. His dam, Uuttera (Peterslund x Botans) was approved as bull dam after her first calving, and Taito was her third calf, and was then selected to AI bull after genomic test. At the farm there has previously been a bull dam and Uuttera's daughter might very well become the third.

So far Taito is the farm's only tested animal, and no further tests have been planned at the moment. The most important goal is to have the robot milking barn that was ready in October to work at full blast. Markku and Anuriikka use GenVikPLUS bulls on 15% of the animals in the herd. "Eventhough

we cannot rely on their evaluation fully, the genetic progress is better if we use them", Anuriikka states.

Anuriikka and Markku had a relatively small tie stall and both wanted to continue the work with the animals. Therefore the decision to invest was a matter of course. At the moment they milk 51 cows, six of those are Holstein and the rest Finnish Ayrshire and by the end of March they will milk 63 cows.

In connection with the expansion, they bought one-year old heifers to the herd and an entire herd. It took the cows only three days to grow accustomed to the robot and in general the first time was good. In the old barn they saw weak heat signs and for that reason did not use X-Vik semen. In the new barn they see stronger heat and they will start using X-Vik semen.



Markku Lallukka and Anuriikka Rytönen, Finland, with the cow Uuttera (Peterslund x Botans) - dam of positively tested bull VR Taito (Tossikko).

At the farm they trust the service given by Faba, and Anuriikka has worked as an advisor in Faba. The technicians inseminate and advise on reproduction, and the breeding advisor prepares the mating plans. The animals on the farm are herdbook registered and the number of cows being classified is high. In future they will probably also do genomic test of top animals.



Impressed by Danish Jerseys

By Dairy Sire Analyst Herby Lutz, Select Sires, USA

In January 18 Jersey representatives from Select Sires, USA, visited Denmark to learn more about our Jersey programme and see our cows and herds for themselves.

I wanted to recap the visit to Denmark last week with the group of Select Sires employees from my perspective.

The Danish Jersey breed has been effectively selected for those traits that will improve the profitability of dairy producers. Danish Jerseys excel in protein and fat yield through higher components, shallow udders, mastitis resistance, fertility, and longevity. The Danish Jersey genetic system is built on a foundation of accurate data collection and analysis. Selection for genetic improvement is balanced with maintaining genetic diversity so that inbreeding does not become a problem.

The group overall was very impressed by the Jersey cow in Denmark. The cow in Denmark is a touch shorter than in the U.S. but a lot stronger with deep ribs with a shallower udder more uniform teat placement and teat length than the U.S. but lacking in

rear udder height and width. The fore udders are very bull specific.

The feet and legs were exceptional, considering 90% of what we saw were in slatted-floor free stall barns and those housing systems in the US I have not been impressed with the overall herds feet and legs. Everyone wonders why in conversion the Danish bulls are so low on type compared to the U.S. bulls and it is my understanding after questioning the people at VikingGenetics that all cattle are evaluated regardless of breed on one scale. The breeds are compared to their individual breed but the scale is the same for all. For example a stature score of 3 is for a 52 inch cow and a score of 7 is for 58 inch cow. This makes it impossible for Jer-

"All of the cattle we visited far exceeded my expectations in type, uniformity and production. They performed well in their confinement set-up, which primarily was free stall with mattresses in slatted floor barns. I was also surprised to learn that one third of the Danish dairies use robots for milking. Needless to say, cows with good, sound, functional udders and good feet and legs are a must in this kind of set-up".

Scott Bohnert, Bohnert Jerseys

"Danish Jerseys excel in protein and fat yield, mastitis resistance, fertility and longevity. They appear to have more substance, shallower udders and tighter fore udders than U.S. Jerseys."

John Metzger, Trans Ova Genetics & River-view Dairy

September Star Impuls by Q Impuls was class winner at World Dairy Expo, Madison, 2010. This is the first time a Danish Jersey sire reaches this prominent title.





In January 14 representatives from Select Sires, USA, visited Viking. The main goal was to see progeny after jersey and SRB sires – and they were impressed!

seys to get range on stature, strength etc. as they are on the same scale as Holsteins and Swedish Reds. They do not see this as an issue as type is not really looked at by breeders only the Nordic Net Merit and when you have over 99% market share you really do not have to give a lot of info for people to make decisions. Also a different twist was the fact that all young sire usage is on the bottom 30% of cows in the herd so there is almost never a 1st crop daughter that is a bull mother.

Zuma – a bull that everyone thought was a lot better than anyone expected from looking at his converted type data. He is at the top of the rankings and they are really nice. Average size with great strength, deep ribs, strong pasterns, shallow udders with average cleft, great teat placement and in their 3rd lactation and wearing well! A bull that deserves to be used heavily as a sire of sons!

Impuls – Great in their country just like in the U.S.!

Jante – needs to be protected on udder depth a little for Select Sires herds but does sire stature and strength with really deep ribs. I believe would be worth testing a few sons by him on some of the higher ranking Action-type.

Two bulls to consider marketing:

May – If the Danish have ever had a bull that stamps the complete package like Action did for us he is the man! Awesome udders, average stature, great strength, and you can flat pick them out in every herd! Not the highest JPI bull but a customer-satisfaction star that everyone will love!

Broiler – a very logical bull with outstanding production and health traits with pleasing udders. A natural to supplement Zuma as a sire of sons of the higher index with health traits kind that are a little different pedigree. Not quite the strength as Zuma but longer from end to end with great teat placement and size and strong pasterns!



Danish May daughter.

Conclusion

Overall I feel the group was impressed and feels the Viking product supplements the Select Sires offering and feel the total structure of Viking to be in line with the Select Sires philosophy. I know for a fact that the perception with this group has changed totally. ●

"A significant portion of my sales are to progressive Jersey breeders, and after seeing the Danish Jerseys I can confidently include these bulls in my recommendations to customers. The trip reinforced my belief that they have a great program in place and an excellent group of sires to work with."

Stuart Schooley, COBA/Select Sires sales representative

Satisfied ProCROSS customers

By manager Sara Wiklert Petersson

More and more commercial dairy farmers in North America change to the ProCROSS concept – Holstein x SRB x Montbeliarde. Sara Wiklert Petersson visited two happy farmers in Wisconsin, USA.

The Clover Hill Dairy is run by the owners Joe and Chris Bonlender and has 1800 acres of land and is staffed by 23 people. The Clover Hill Dairy milks 1,600 cows in a large and light barn. 70% of the cows are crosses and the herd uses the ProCROSS program with Holstein x SRB x Montbeliarde.

Joe Bonlender started crossbreeding in 2000 and used Brown Swiss, but since 2004 only SRB and Montbeliarde besides Holstein have been used. Joe fully trusts Mike Osmundson from Creative Genetics, to choose the bulls for them. The results are good with good feed conversion with 60% roughage and plan to increase to 65% roughage. The daily average yield is 34 kg per cow with 4.1% fat and 3.3% protein. Since they deliver the milk to a cheese plant the cheese yield is important.

At the Clover Hill Dairy they see an improvement in udder health since the start of crossing – 50% less mastitis and an average SCC of 200,000 compared to 300,000 in the past. The fertility results are excellent with a 21-day pregnancy rate of 25% (US average 14%). Joe says that they are very satisfied with the crosses. “The cows stay healthy and need no special treatments.” But he also points out that he doesn’t like all dairies to start crossing. “We have a competitive advantage over Holstein herds, and we would like to keep that advantage!”, he says and smiles.

Majestic Meadows Dairy

Darin and Dean Strauss today milk 900 cows, of which 75% are ProCROSS cows. They just bought a second dairy with 750 cows and the plan is to milk a total of 2,000 cows in the near future.

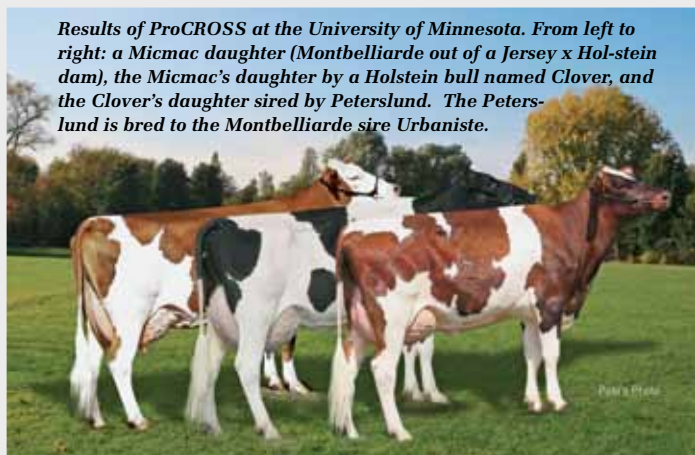
"Our ProCROSS cows stay healthy and need no special treatments."

They are ProCROSS customers – even though there is still notable jersey influence in the herd. Darin knows the cows absolutely perfectly and proudly presented them. In the herd there are many daughters by B Jurist, Peterslund, Orraryd and Lars Larsgård. And Montbeliarde daughters by Masolino, MicMac and Redon. All with fantastic udder quality.

Their daily milk average is 32 kg 3.8% fat and 3.2% protein. Cell count has been reduced to 90,000. Darin explains it by quitting BST a couple of years ago and by the fact that the crosses in general have better udder health. The heifers calve at 22 months and loose very few calves. The reproduction results in the herd are excellent and in 2010 they were one of the five Platinum winners of DCRC Reproduction Award. This herd is not the only ProCROSS customer awarded – three in top five are milking ProCROSS cows.

In Majestic Meadow they average 110 days open with a calving interval of 12.5 months and 2 inseminations per pregnancy. Darin says that this achievement is only possible due to crossbreeding. ●

Results of ProCROSS at the University of Minnesota. From left to right: a Micmac daughter (Montbeliarde out of a Jersey x Holstein dam), the Micmac's daughter by a Holstein bull named Clover, and the Clover's daughter sired by Peterslund. The Peterslund is bred to the Montbeliarde sire Urbaniste.



Darin Straus, Majestic Meadows Dairy, milks 900 cows daily – 75% are crosses. The plan is to expand to 2,000 cows.



Sara Petersson discusses the ProCROSS programme with the team at Clover Hill Dairy.





A delegation of 150 Polish cattle breeders visited the Agromek Show in December 2010 and modern Danish dairy herds with 200-500 cows at an average level of 12,000 kg milk. Here is part of the happy group.

Partnership with PH KONRAD in Poland

By exportmanager H.C. Hansen

In autumn 2010 Poland's largest importer of bull semen, PH KONRAD, entered an agreement with Viking-Genetics on the use of 60 genomically tested Holstein bulls in a Polish Holstein breeding programme. The programme will last 3 to 4 years.

The programme is officially recognized partly by the Polish state authorities for cattle breeding – and by the Polish Holstein Association. PH Konrad bought the rights to use the bulls in Poland during the test period as well as later when the bulls are proven bulls. In the nature of things PH Konrad has

all the rights to sale and marketing of the bulls in Poland.

Huge interest from Poland

A delegation of 150 Polish cattle breeders went to Denmark when the partnership between PH KONRAD and Viking-Genetics was announced in Poland. The delegation visited the Agromek Show in December 2010 and some modern Danish dairy herds with 200-500 cows and a level of 12,000 kg milk per annual yield of a cow. The Poles noticed that the best Viking bulls are the genetic basis of the high yield in these herds. The best bulls noticed and mentioned by the delegation were Orange, Etoto, Limbo, Rakuuna and Ross.

The Viking Holstein cows made a good impression with the Polish cattle breeders – in particular their high yield, the functional mammary and the effective running was mentioned by the delegation. The Viking breeding profile – focusing on functional traits and health traits – appeals to the dairy farmers from Poland.

The three busses with the representatives of the Polish milk producers went home convinced that Viking Holstein from now on will leave its clear impression on the Polish Holstein breeding. ●

D Orange – the most used sire in VikingGenetics in 2010 with more than 100,000 doses.

Most popular sires in 2010



By the red breeds R Facet had the most use in the three Viking countries in 2010 where as Peterslund and Gunnarstorp were the most popular on the international markets. D Orange was the most popular Holstein sire from VikingGenetics with 103,850 sold doses. By Jersey Impuls impresses with 76,000 exported doses followed by Zuma as a sovereign number two.

Table 1. Most used red sires on the VG home markets in 2010

	R Facet	A Linné	A Sale	Tosikko	V Föske
Denmark	17,149	7,829	631	3,360	750
Finland	35,091	23,357	24,141	27,241	7,194
Sweden	29,841	26,674	11,536	8,911	10,161
VG	82,081	57,860	36,308	39,512	18,105

Table 2. Most exported red sires from VGI in 2010

Sire	Number of doses	Number of countries	Important markets
Peterslund	44,918	13	Holland, Germany
Gunnarstorp	42,326	13	USA, Germany
Orraryd	34,087	18	USA, Germany
B Jurist	26,587	16	UK, USA
R Facet	15,370	11	USA, Norway
O Brolin	12,622	12	Holland, Chile
R David	12,560	13	USA, Poland, Turkey
Långbo	11,265	12	Germany, UK
R Fastrup	11,120	10	USA, Australia, Norway

Table 3. Most used Holstein sires from VG in 2010

Sire	Denmark	Sweden	Finland	Export	Total number of doses
D Orange	60,268	21,942	11,749	9,891	103,850
Rakuuna	48,411	15,782	16,888	7,960	89,041
S Ross	34,662	19,127	7,335	5,455	66,579
D Onsild	45,030	15,218	25	5,720	65,993
D Limbo	38,013	14,619	5,169	1,363	59,164
D Dundee	36,309	8,295	10,630	2,575	57,809
D Ole	34,141	6,493	8,701	4,238	53,573
D Etoto	20,620	7,030	2,567	550	30,767
D Expo	14,449	10,265	3,660	1,000	29,374
D Export	12,783	7,600	5,555	1,616	27,554
D Rødding	20,985	0	5,056	1,135	27,176
D Sol	11,829	0	1,743	7,290	20,862

The export of semen from red sires makes up the largest part of the total export in VikingGenetics. In 2010 we exported more than 390,000 doses of conventional semen and 6,000 doses of X-Vik semen from red sires. It is interesting that the largest markets for VikingRed have long breeding traditions and export quite a lot of semen, but it is primarily Holstein that is the main breed in the countries.

Holstein sires are the most used in the Viking countries simply due to the fact that almost 75% of the cows in Denmark are Holsteins – the country where we also have the largest population of dairy cows. In Sweden almost 50% of the cows are SRB and in Finland 66% are Finnish Ayrshire.

The jersey breed is very important for VG. The majority of jersey cows we have in Denmark where the number is continuously growing now making up 16% of the dairy cows. ●

Table 4. Most used Jersey on the VG home markets in 2010

Sire	No doses
DJ Zuma	29,500
DJ Jante	18,800
DJ Izzy	13,800
DJ Hulk	9,800
DJ Give	7,700

Table 5. Most exported jersey sires from VGI in 2010

Sire	Doses	Important markets
Q Impuls	76,400	USA, Argentina, South Africa
DJ Zuma	45,700	USA, South Africa, New Zealand
DJ May	33,300	South Africa, UK
DJ Jante	22,200	USA, New Zealand
Q Zik	14,200	South Africa

Agro Nord Show 2011

On 9 March 2011 there will be the Agro Nord Show in Års, Denmark. We aim at presenting groups by the following Holstein sires at the show: D Banker (second crop), D Etoto, D Sol and D Oscar.

Cattle breeders will have an added bonus from hoof health registration

Farm owner Jan W. Bloten, the island of Funen in Denmark, has good experience with the use of information from the hoof trimmers' registration in his herd of 110 jersey cows. Jan believed that he had no hoof problems in his herd. After the hoof trimmer's visit to the herd, the registration showed however that a large part of the cows had weak hoof quality.

He contacted his advisor on feed and it turned out that the amount of mineral in the feed was not optimal. Jan changed to a new mixture of minerals and later improved hoof quality and surprisingly improved quality of the colostrum in the cows was observed. This gives hope of reduced calf death rate.

Point: Eventhough Jan Bloten did not believe that the hoof registration would benefit, it has given him useful information and increased possibility of constant care in his herd = more money in the bottom line figures!

Lost fencing during flooding

"We have had floods through our property and the clean up has taken a while. The small town of Carisbrook which is across the "creek" from our house was inundated by floodwater from 30 cm to 1.5 metres. It has been dreadful for them.

Our house was dry – by just 15 cm – but lost most fencing washed away and water through sheds. We were lucky!!

The photo of floods is taken from our house of me Carlene and our twin daughters – now nearly 12 – with Katherine on the left and Ellen on the right.

All the best to all of you at VikingGenetics and best wishes for the year ahead".

*Alastair and
Carlene Dowie
Carisbrook,
Australia*



Peterslund is still popular abroad and with 45,000 doses he was the most exported sire in 2010. Here is a prime Swedish daughter from AB Bröderna Palmstedt, Lidköping, photographed in her third lactation producing 11,864 kg ECM.

AI bulls give the best economy

In the breeding work NTM represents the total economic value created during the productive lifetime of an animal. The results of an examination from Danish Cattle Federation show that progeny after Nordic proven bulls have the highest genetic level for NTM for all three dairy breeds.

Daughters after VikingRed proven bulls have an increased value of 120 Euro better than daughters after private bulls.

For Holstein cows the differences in NTM mean that a daughter after a proven bull in average is 120-135 Euro better than a daughter after an average import bull or a test bull while it is 220 Euro better than a daughter after a private bull.

For jersey cows the differences in NTM mean that a daughter after a proven bull in average is 55 Euro better than a daughter after a test bull while it is 95 Euro better than a daughter after a private bull or an average import bull.

The test bulls that are sires of cows born in 2006 have been selected without the use of genomic selection. Now genomic selection is used for the selection of all test bulls in VikingGenetics. This means that the test bulls are at a higher level than previously. This also means that the difference between daughters after test bulls and private bulls in future will be even larger – to the advantage of the test bulls!

Faba involved in neighbourhood project in Russia

The Finnish agricultural advisors have collaborated with neighbouring areas in Russia for over 20 years. The Ministry of agriculture and forestry supports the project which is coordinated by ProAgria Etelä-Karjala in Finland. Other participants to the project are MTT, Faba and Pöyry Oy. Faba is in charge of matters concerning animal breeding, for example artificial insemination, fertility advising, development of genetic level etc. Faba cooperates with VikingGenetics when it comes to genetics.

The neighbouring area means nowadays North-West Russia, more specifically the area from Tver to Murmansk. The most important areas are close to St. Petersburg and Karelia.

The latest project started 28 January in Agriculture University of Pushkin, in St. Petersburg, where over 20 Russian partners gathered to a kick-off seminar.

Index for milking speed with higher reliability

By Anki Roth, Anders Fogh and Terhi Vahlsten, NAV - Nordic Animal Breeding

In February we initiated the use of data from electronic lactometers. This has changed the index for milking speed for some bulls – also bulls with previously high reliability.

It is almost solely index for bulls used in Denmark that changes since the electronic lactometers at present are only being collected in Denmark. For the latest years of proven bulls the correlation in the interval is from 0.7 to 0.8 for Danish bulls. This means that some re-ranking among the recently proven Danish bulls will occur. For the Swedish and Finnish bulls the correlation is close to 1.

Much new data

For Danish bulls born around the millennium, the index for milking speed is

based on subjective estimation of 35-55 daughters. The use of data from electronic lactometers results in registration of more cows than previously. Thus, bulls born in 2003-2004 have 70-90 daughters in their test period.

An example is the Holstein bull V Hamsun who had proof of milking speed of 110 based on subjective evalu-

ation of 500 cows in November 2010. Including the new data in February 2011 this proof for milking speed fell, and is now based on measurements of 1,500 cows to 101.

Another advantage of using data from electronic measurements is that a larger part of the cows will have proof for milking speed based on own registration.

The heritability for milking speed from electronic lactometers is significantly higher than milking speed estimated by the cattle breeders – see table 1. The high heritability gives higher reliability of the proofs. ●

Facts

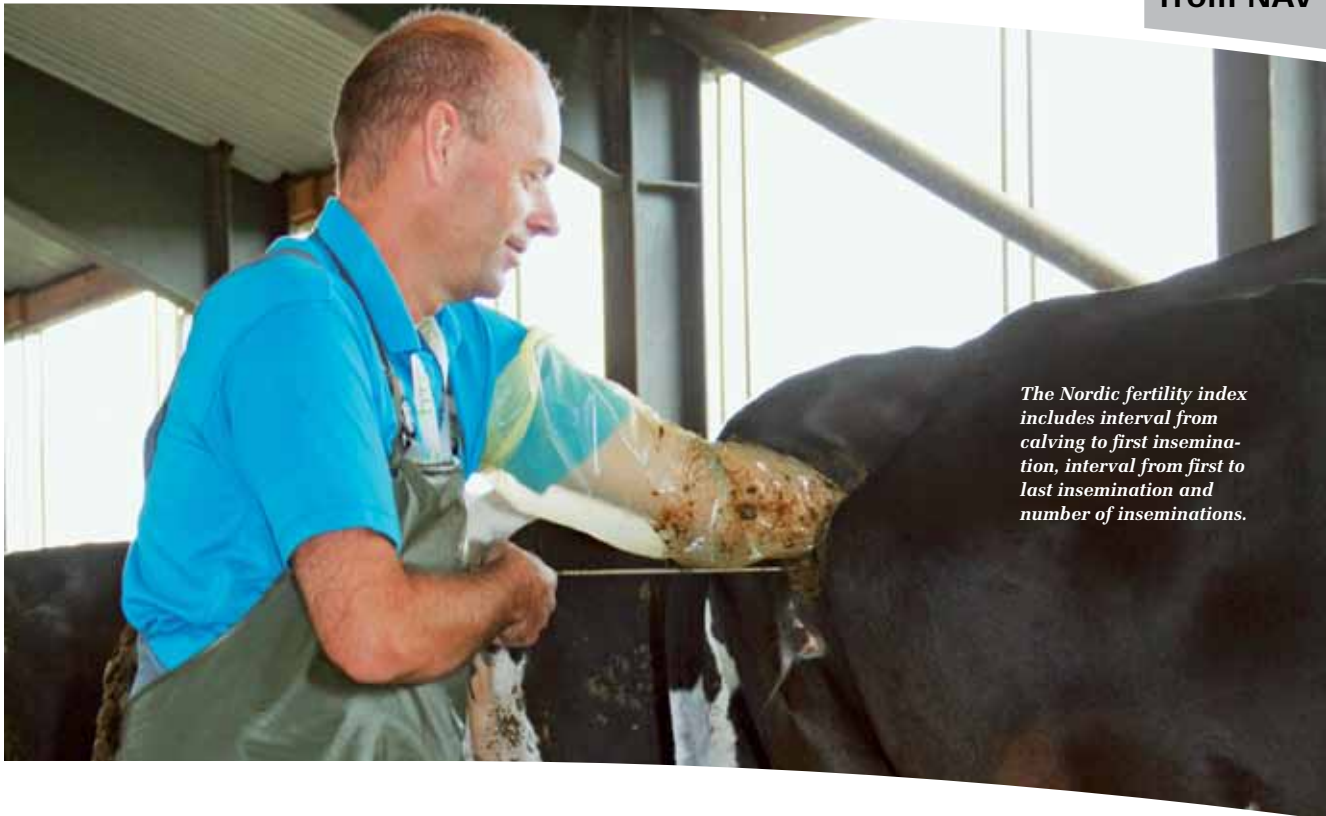
Measurements from electronic lactometers are included in the Nordic Genetic Cattle Evaluation for milking speed in February 2011. The bulls' proofs for milking speed are thus based on both traditional subjective estimations of daughters' milking speed and objective flow measurements. The milking speed from electronic lactometers is defined as the average flow of components (fat and protein) measured in kg per minute. In the genetic evaluation up to seven milk recordings in first lactation are used.



Data on milk flow from electronic lactometers collected in 2008 or later are now being used in the calculation of breeding values on milking speed. Registrations on milk flow from herds with milk robots will be used as soon as the transfer of data to the central cattle database is possible.

Table 1. Heritability for milking speed from electronic lactometers and milking speed estimated by the cattle breeders for RDM, Danish Holstein and Danish Jersey.

Method of registration	RDM	Danish Holstein	Danish Jersey
Electronic lactometers	0.53	0.43	0.47
Estimated by cattle breeder	0.26	0.22	0.16



The Nordic fertility index includes interval from calving to first insemination, interval from first to last insemination and number of inseminations.

Effect of +10 index units – female fertility

Breed for better female fertility

By Anki Roth, Anders Fogh and Terhi Vahlsten, NAV – Nordic Animal Breeding

The magnitude of the breeding values is of interest for quantifying the expected genetic progress. How many days shorter interval from first to last insemination can you expect when using a sire with female fertility index of 110 compared to an average (100) sire?

Effect of +10 index units for female fertility traits

Several separate traits give information

about female fertility. Fertility index includes interval from calving to first insemination, interval from first to last insemination and number of inseminations. Information from heifers and parities 1 – 3 are included. Information from non-return rate and heat intensity are also used in the female fertility evaluation but these traits are not included in the female fertility index. The effect of +10 index units in female fertility index is shown in Table 1.

If the Holstein sires A and B have female fertility indices of 110 and 100, then the daughters of sire A on average have more than two days shorter interval from calving to first insemination than the daughters of sire B.

Important to point out is that the averages are different for the different breeds, so sires should always be compared within the breed.

The most important trait in the female fertility index is interval from first to last insemination as shown in table 2. The correlation is almost unity. This means that selection for female fertility index is nearly the same as selection for interval from first to last insemination. However the correlation between the fertility index and interval from calving to first insemination as well as number of inseminations are also very high, which means that selection for the female fertility index also give genetic progress for these traits. ●

Table 1. Effect of difference of +10 index units between sires for female fertility traits

Trait	Red breeds	Holstein	Jersey
Days from calving to first insemination	-1,7	-2,2	-1,6
Days from first to last insemination (cows)	-4,9	-5,9	-4,0
Number of inseminations (cows)	-0,08	-0,03	-0,06

Table 2. Correlations between female fertility index and its subindices

Trait	Red breeds	Holstein	Jersey
Days from calving to first insemination	0,60	0,65	0,63
Days from first to last insemination (cows)	0,97	0,97	0,96
Number of inseminations (cows)	0,91	0,85	0,87



Effect of +10 index units - Health traits

Healthier offspring from sires with high index

By Anki Roth, Anders Fogh and Terhi Vahlsten, NAV – Nordic Animal Breeding

The magnitude of the breeding values is of interest for quantifying the expected genetic progress. How many fewer mastitis infections can you expect when using a sire with udder health index of 110 compared an average (100) sire?

Effect of +10 index units for udder health

Udder health is measured as proportion of treatments for mastitis during early and late lactation in first parity cows, and proportion of treatments during second and third parity, separately. The

effect of +10 index units is shown in Table 1.

If the Holstein sires A and B have udder health indices of 110 and 100, then the daughters of sire A on average have almost two percent less mastitis cases than the daughters of sire B.

Effect of +10 index units for other diseases

Other diseases consist of three different categories of diseases: reproductive disturbances, feet & leg problems and digestive disorders. For Jersey only digestive disorders are included in the in-

dex. These are measured in first, second and third lactation. The effect of +10 index units is shown in Table 2.

If the SRB sires A and B have udder health indices of 120 and 110, then the daughters of sire A on average have approximately one percent less fertility diseases in early lactation than the daughters of sire B.

The realized genetic gain depends on other traits in selection and genetic correlations between them. Still, for all health traits, there is good sense in going for sires with high indices, because it results in healthier cows. Thereby index selection increases profitability for the farmer. ●

Table 1. Effect of difference of +10 for index units for calving direct/maternal between sires

Trait	Red breeds	Holstein	Jersey
Mastitis, 1st lactation (-10-40 days), (%)	-1.8	-1.8	-3.4
Mastitis, 1st lactation (41-150 days), (%)	-1.2	-1.8	-2.6
Mastitis, 2nd lactation (-10-150 days), (%)	-2.3	-2.5	-3.6
Mastitis, 3rd lactation (-10-150 days), (%)	-2.7	-2.7	-4.5

Table 2. Effect of difference of +10 index units for fertility diseases, feet & legs, and digestive disorders

Trait	Red breeds (1st/2nd/3rd lact.)	Holstein (1st/2nd/3rd lact.)	Jersey* (1st/2nd/3rd lact.)
Fertility disease, (0-40 days), (%)	-0.7/-1.0/-1.2	-1.0/-1.0/-1.2	-
Fertility disease, (41-300 days), (%)	-0.3/-0.7/-1.0	-0.5/-0.7/-0.3	-
Feet & legs problem, (%)	-0.2/-0.0/-0.2	-0.5/-0.2/-0.3	-
Digestive disorder, (%)	-0.5/-0.7/-1.2	-0.7/-0.8/-1.8	0.0/-1.0/-2.2

*only digestive disorders are included for Jersey

VikingGenetics has a well educated staff that is dedicated to serve cattle breeders all over the world with world leading genetics. We have asked them to present themselves.

Our international team

Sara Wiklert Petersson, manager, VikingGenetics International

I am the manager for VikingGenetics International, the part of VikingGenetics focusing on export. I have worked for VikingGenetics and the former Svensk Avel for 11 years and I started right after I got my master degree in Animal Science. So I have a long background in our export business within the company and am still responsible for USA, UK, Spain, Italy and Portugal.



Rikke Pedersen, export coordinator

I have been working as an export coordinator in VikingGenetics and the former Dansire International since 2006. I am educated as AP Graduate in Agro Business and Landscape Management. I have worked with the cattle breeding industry for about 11 years.



Hans Christian Hansen, export manager

I am export Manager for China in the far east – Kazakhstan in central Asia and Pakistan, Brazil, United Emirates, Israel, and Turkey and 14 countries in Central and Northern Europe. I am educated as Agronomist and I was employed as Breeding Manager for Holstein in Danish AI's for nearly 20 years and for five years I was Senior Advisor for Danish Beef Breeds.



Suvi Johansson, export manager

I have a master's degree in Animal Breeding and I work as an Export Manager. I have been on a dairy business for nine years now, but in fact I've worked with cows all my life, as my uncle has a dairy farm in Finland. On behalf of my work in Viking I take care of some countries in South and Central America.



Malin Fröjelin, marketing consultant & export manager

I am area manager for Germany and also responsible for the Swedish market. I have a Master of Science in Agriculture and I have worked for VikingGenetics and former Svensk Avel since 1998 with a lot of different issues. For five years I was breeding manager for our nucleus herd Nötcenter Viken and before that I worked in the breeding department. I started with the domestic market in 2008 and am now moving towards more international work.



Cecilia Hagström, marketing assistant

I work in the marketing and information department but I also coordinate the exports from Sweden to our domestic countries. I have worked for VikingGenetics and the former Svensk Avel since 2005.



Camilla Öberg, export coordinator & veterinary administrator

I work as an export coordinator and veterinary administrator. I have been employed in VikingGenetics and former Svensk Avel for many years. I started in the bull barns, laboratory, reception, marketing and now since 2005 in the export and the veterinary department.



Anders Andersen, export manager

I have been working with export of genetics for about 17 years and it has been a privilege working with our serious partners. Our international presence has become obvious for everybody in the industry, and we see this trend to continue – therefore I am presently working with new areas in Africa, Asia and Eastern Europe.



Seppo Niskanen, export manager

I am MS of Animal Breeding, and I work as an export Manager. I worked for Faba in Finland from 1997 until Faba merged with VikingGenetics as per January 1 2010. I am responsible for markets in France, Ireland, Russia, South Africa, Sri Lanka and Canada.



Margareta Håård, chief veterinarian

I am the chief veterinarian of VikingGenetics. Consequently my main focus in connection with exports is on veterinary matters but I am also directly responsible for the markets in Colombia, Ecuador, Uruguay and Iran.



Anna Norgren, manager for VikingGenetics Australia

I am the manager for VikingGenetics Australia, a subsidiary to VikingGenetics that was set up in Australia in 2010. I am also responsible for New Zealand. I have worked for VikingGenetics for 7 years and I started right after I got my master degree in Animal Science.



The best cows are almost invisible

*Choose NTM – Nordic Total Merit
– for maximum production
and minimum of problems.
Then profit comes naturally!*



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