vikingnews { NO 03 | SEPTEMBER 2015 }

V FÖSKE – THE LAST MATADOR

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VIKINGGENETICS

Web: vikinggenetics.com

VikingGenetics, Head office
Ebeltoftvej 16
DK-8960 Randers SØ
T: +45 8795 9400
F: + 45 8795 9401
info@vikinggenetics.com

VikingGenetics, Sweden
Box 64
SE-532 21 Skara
T: +46 511-267 00
F: + 46 511-267 07
export@vikinggenetics.com

VikingGenetics, Finland
Korpikyläntie 77
PL 95
FI-15871 Hollola
T: +358 40 311 5000
F: +358 40 381 2284

Editor of VikingNews
Poul Bech Sørensen
T: +45 8795 9405
M: +45 2129 0575
posor@vikinggenetics.com

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By sales manager Sara Wiklert Petersson

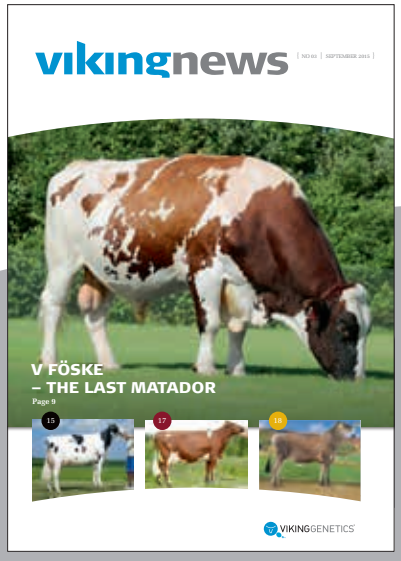
Leaders are those with followers

Genomics makes it possible for more companies to work with health traits. The pressure on the dairy economy at the same time increase awareness and interest for breeding a healthy = profitable cow.

VikingGenetics has had this focus for decades. Thanks to a system where the dairy farmers influence the breeding goal, close connection to science and implementation of the results into the breeding and selection. Quality data is the foundation of breeding healthy cows. 90% of the cows in Scandinavia are in milk recording and this alongside with veterinary and hoof trimmer reports, makes it possible to breed for mastitis resistance and other diseases.

The index for other diseases is actually a major reason why the recently discovered genetic disease HH6 has low frequency in the VikingHolstein population. We early identified that the carrier sires were bad for metabolic diseases.

The improvement in health traits has contributed to an annual genetic progress of 5.6 NTM units (VikingHolstein). 5.6 NTM units mean 28,000 € in a herd of 500 cows without any extra efforts - it is all in the genes. So when the times are tough for dairy producers the reason for choosing VikingGenetics is even higher. We have the track record of successful breeding for profitability. Not only were we the pioneers – we defend our champion title with bravura!



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LAYOUT AND PRODUCTION: vahle* nikolaisen.

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

COVER PHOTO: V Föske pictured at his 10-years birthday. Photo Poul Bech Sørensen.

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VikingRed success in Finland

In the 70-cow Alatalo herd in Finland, belonging to Jaana & Mikko Niskanen, a clear breeding goal has borne fruit with three bulls sold to VikingGenetics in a short period of time:
VR Feton (VR Flame), VR Bestman (VR Boudi) and VR Firefox (VR Falcon).

Behind the three top bulls is the cow Veera (Peterslund) who is still high producing - and now in her seventh lactation. Jaana & Mikko see the old cow as a true image of a good cow: invisible, easy to care and a high producer. Veera and her dam Sara (Lammin Life) has been the foundation of many top animals in the herd.

VR Feton and VR Bestman are out of the same dam, Jeeveli, by A Linné. The cow has excellent udder and feet & legs, she is easy to handle and takes care of herself. The Niskanen couple wished to get also daughters out of Jeeveli, so they flushed her with sexed VR Uudin, resulting in one pregnancy.

The third bull calf, VR Firefox' dam, is Eerika by VR Record, descending from the same Veera cow family as the two others.

By experience, Jaana and Mikko testify that everything is based on meticulous care of calves and sufficient protein feed. Jaana says: "I always try to raise a heifer calf to be a "glutton" so that there is adequate space in the rump when the calf becomes a cow" and continues "if the care of the calf is not of super quality, there is no space for the breeding to show its best". At Alatalo farm there are no problems in this area and heifers are inseminated at the age of 14 months. ●

Dam of VR Firefox with family Niskanen in Finland.


Dam of VR Feton.

VH Bynke daughters by Niels Nørgaard, Denmark.

New rules for publication of **daughter proven indexes**

With the latest index run in August 2015 NAV (Nordic Cattle Genetic Evaluation) has changed the rules for transition from genomic breeding values to breeding values based on daughters. By increasing the needed reliabilities for publishing a trait as daughter proven breeding value, we will see smaller changes to the proofs, when changing from genomic values to values based on daughters. When a GVP sire from VikingGenetics reaches breeding values based on daughters for yield, type and mastitis resistance, VG will publish them as daughter proven sires.

VikingGenetics still has a strong line-up of daughter proven bulls - just as before - for you that prefers that. ●

Table 1. Current and previous reliabilities for daughter proven EBV publications

Trait	Current	Previous
Yield traits	90%	60%
Type traits	50 daughters	15 daughters
Fertility	75%	35%
Mastitis	75%	40%
Calving traits direct	75%	50%
Longevity	75%	50%
Hoof Health	75%	40%

Still daughter proven sires

In the recent years the genomically tested sires have had much attention. The domestic mating plans and the lists with sires of sons consist almost only of "genomic sires". "Does VikingGenetics still progeny test bulls" is a question we often get? The answer is YES. All sires that enter AI do get a progeny test. Today the average daughter size is even larger than before the genomic era with several hundred daughters.

Like in the past, traditional progeny based breeding values are calculated by NAV. The methods for calculating traditional breeding values are still under improvement and breeding values for new traits are developed. The newly progeny tested sires are an important source of information for re-newing the reference populations - even though females are now included. ●

BY EVGENIJ TELEZHENKO, PHD IN HOOF HEALTH

Higher profit by using sires with high hoof health index

There is a great difference in hoof health among sires. By choosing the best sires for this important trait, you get less lameness and higher profit.

Lameness is one of the main reasons for economic losses in the modern dairy production. The majority of the lameness cases are associated with hoof lesions. Feed management, cow comfort and functional hoof trimming are considered to be the main tools for efficient lameness control. The role of breeding in lameness control is often neglected.

Yet, there are indications of considerable genetic variation of resistance to the hoof disorders. We know that some breeds are more resistant to hoof lesions (e.g. Swedish Red and Jersey are more resistant to laminitis problems than Holstein). Farmers can also notice that under the same management conditions some individuals never get lameness problems while for others the hoof health is always a concern. Thus, similar to other traits, if there is an evidence of genetic variation there is a room for genetic improvement.

Direct selection more efficient

Factors behind genetic resistance to hoof lesions are many. The principal list of factors responsible for genetic resistance

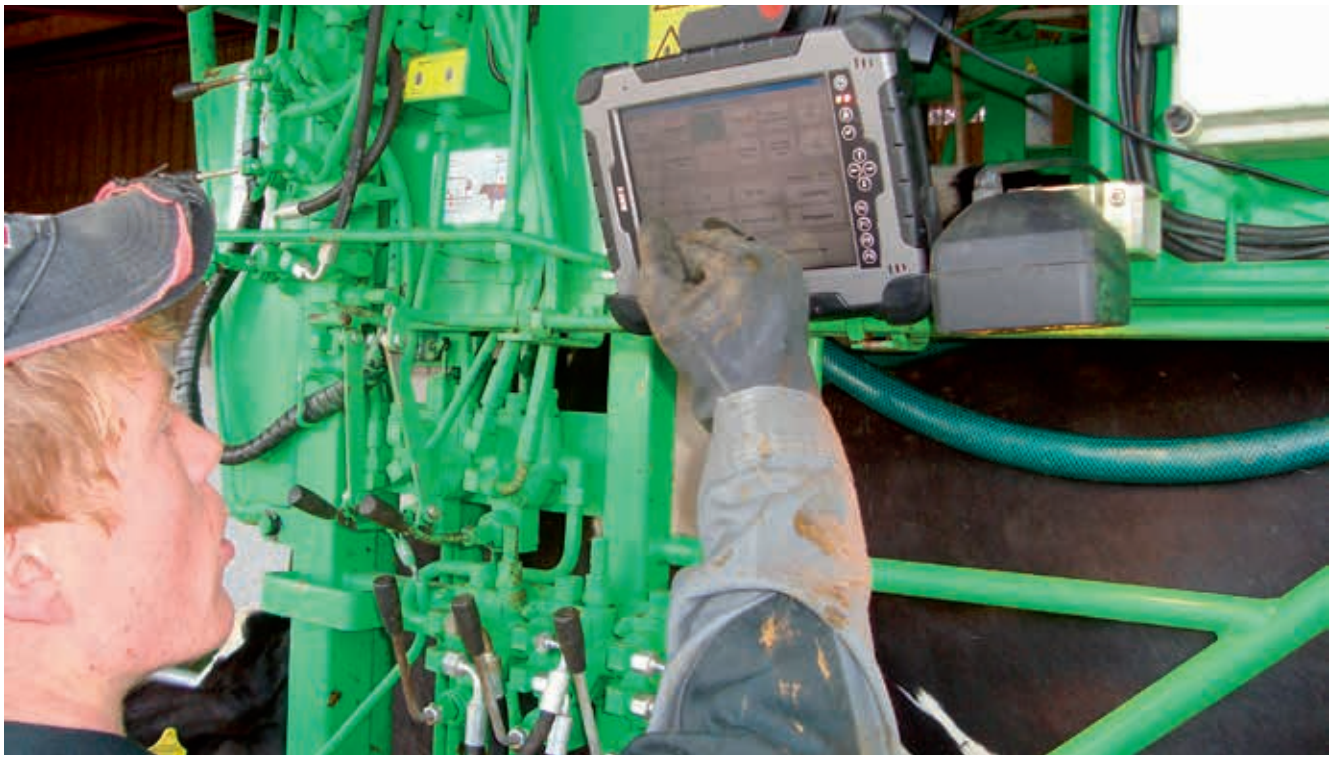
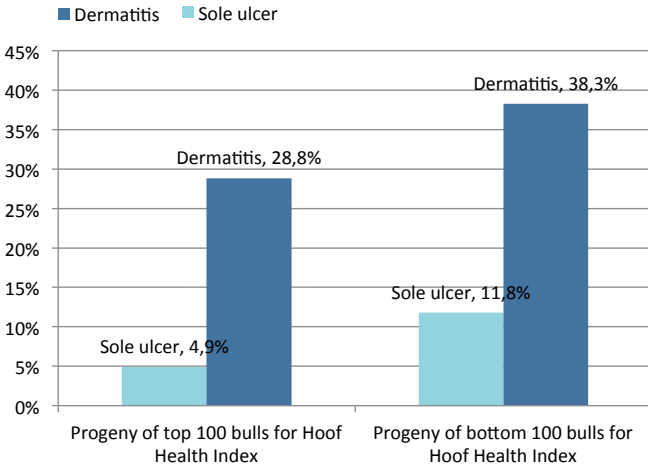


Figure 1. Differences of expected hoof health in progeny of top 100 and bottom 100 Holstein sires (born 2006-2009)



to hoof diseases would include hoof horn quality, feet and leg conformation, immune functions, regeneration abilities, metabolic profile, stress resistance, behaviour and interactions between all these factors. Because of this complexity it is impossible to perform an effective selection for better hoof health using only few indirect traits.

Thus, using feet & leg conformation traits showed through the years to be non-effective for breeding for better hoof health. Considerable improving in feet & legs conformation were not followed by any improvement in hoof health, but rather worsening the resistance according to number of researchers from e.g. Sweden, Denmark and Canada. Therefore it is much more efficient to select directly for hoof health by using hoof health registration data.

Hoof trimming data the only way

Only the Nordic countries provide hoof health index solely based on the registration of hoof health made during the routine hoof trimming. Viking countries also possess a greatest database of the hoof health gathering data on trimming of about half of a million cows per year. Moreover, the majority of these cows are trimmed twice or even three times per year which makes the breeding values for hoof health highly reliable.

Because of the interest for genetic improvement of hoof health other breeding companies try to launch similar indices. However, because of inability to gather considerable data from hoof trimming, these companies use big portion of conformation data to construct their own "hoof health index". Unfortunately this is misleading for the producers, since feet & leg conformation traits already showed inefficiency in selection for hoof health through the years.

Large variation among the sires

Even if heritability for hoof health traits is relatively low, there is a large variability across the sire daughter groups. If we compare hoof health index between the 100 best and 100 worst sires among all Holstein sires born 2006-2009 with daughters in the three Viking countries (including imported ones), the difference is more than two standard deviations of hoof health index between these groups.

This means that daughters of the best sires from the average cows under the average management conditions will have only 4.9% of sole ulcer, while daughters of the 100 worst sires will have as much as 11.8% of sole ulcer (Figure 1). If we, in a similar way, compare the progeny of 100 best and 100 worst sires on feet & legs conformation the difference is only 1.2% less sole ulcer in the top group. Every case of sole ulcer is estimated to cost about 500 EUR per year, so for a farm with 150 cows the difference between the best and worst choice based on hoof health index is more than 5,000 EUR per year – a substantial sum, which requires nothing but changes in the breeding strategy. Viking sires combine high production with good hoof health, so by selecting among the Viking sires you can significantly reduce your production costs and improve net profit. ●

What is VikMate?

VikMate is the mating program that is designed to help farmers in achieving individual breeding goals on the herd. Moreover VikMate will allow you to use the Scandinavian breeding profile to increase the profitability of dairying. VikMate uses Interbull web data, which permits to use high variety of sires in your breeding program. VikMate controls inbreeding and gives you information on predicted genetic improvement of your herd due to different scenarios.

VikMate...

- Completely web based – no special program installation is needed
- Uses centrally controlled sire database which includes all possible sires within "Interbull"
- Based on individual farmer breeding goals both on a herd and on individual cow level
- Controls inbreeding
- Evaluates 40 different traits on each animal
- Uses the proven Scandinavian breeding profile for healthy and profitable cows

Getting started with VikMate

VikingGenetics' distributors have the privilege of using the VikMate mating program - free of charge. The area managers will provide username and login information. Then just go to www.vikmate.com to improve your herd the Scandinavian way with VikMate! •

News about VikingRed

V Föske – the last matador?

V Föske has an excellent reputation all around the globe with daughters on five continents and in 28 countries. In the last Interbull evaluation Föske had more than 9,000 daughters in production proofs in eight countries. 79,000 doses of conventional and 7,000 X-Vik doses have been exported. His most pronounced merits are high production and components, excellent daughter fertility and superior daughter survival.

V Föske was born at the Viken bull dam test station in Sweden, where his dam was selected as embryo donor. Föske is the highest ranked red sire tested in Scandinavia from the age class of 2005 - and still has NTM +15.

V Föske still has an impact on the VikingRed breeding program. 17 of his sons are in AI and he is the maternal grand sire to additionally 31 sires. In the future the expectation is that no sires in the VikingRed breeding program will ever have such high number of sons or grandsons entering AI. V Föske may therefore be the last matador in the red breeding program.

V Föske is still in semen production and doses can be ordered through your local VikingGenetics representative. ●

Table 2. V Föske's TMI in different countries where he has domestic proofs

County	Local TMI
Denmark / Finland / Sweden	NTM 15
Australia	BPI 335
Norway	Avelsverdi 29
USA	NM$ 602

Table 1. High ranked sons and grandsons to V Föske in the VikingRed breeding program

Name of the bull	Birth year	Sire	MGS	NTM
VR Favre	2011	V Föske	O Brolin	26
VR Fissio	2011	V Föske	Record	22
VR Flame	2011	V Föske	Gunnarstorp	21
VR Hermit	2014	VR Harvey	V Föske	30
VR Tokyo	2013	VR Toumi	V Föske	29
VR Aakenus	2014	VR Alavire	V Föske	26

V Föske pictured at 10 years of age.

V Föske daughter at Beaulands herd, Nowra, NSW, Australia.

Genomic selection has changed the breeding

Since the introduction of genomic selection in the VikingRed breeding program we have seen many changes. The farmers have chosen "genomic" bulls instead of daughter proven bulls, and the genetic trend has increased significantly. Now we can also notice that pedigrees of the bulls are considerably larger than before the genomic era.

Increased genetic trend

In figure 1 you can see the genetic trend for VikingRed in NTM for males (blue) and heifers (red). Since the introduction of genomic selection, the slope of the trend curve is steeper. This is most pronounced for males, but we can already now see improvement of the curve for heifers who will reach the same level as the mean for AI-bulls after 3-5 years.

More genomic bulls are used

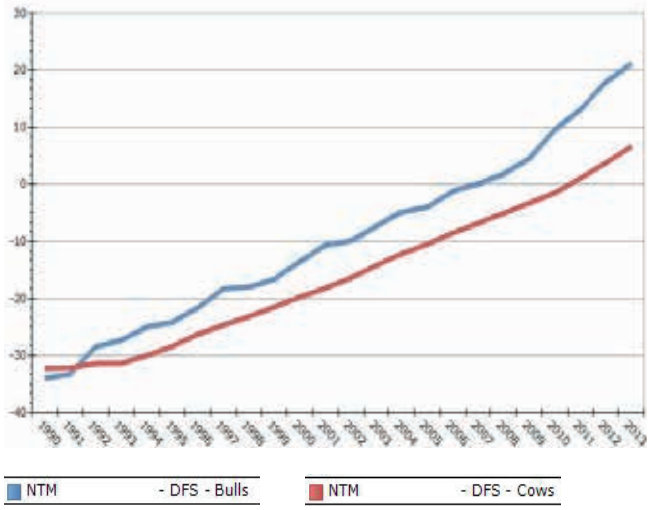
Less than 10% of the VikingRed services in 2015 have been with daughter proven sires. Before the introduction of genomic selection, 70% of the inseminations were done with these older sires. The major force in this change is that the younger genomic bulls are superior and have a higher genetic level on all traits in NTM.

More diversified pedigrees

The reliability of genomic proofs is lower compared with progeny testing. Therefore more bulls need to be used and with different pedigrees as well. In May 10 new bulls entered the breeding program and an additional 8 new bulls were selected as sires of sons. In total 18 new bulls became available to farmers. These 18 bulls had 16 different sires, 9 different maternal grand sires and 12 different paternal grand sires.

All new AI-bulls in the VikingGenetics breeding programs have the potential of becoming a sire of sons. But not all bulls will be replaced by a son and some bulls will get several sons. For VikingGenetics it is important to ensure large genetic variation to ensure future success in the breeding program. ●

Figure 1 Genetic trend in NTM for VikingRed.



Cow like a Dream

Unelma (Miqur x Johde) is worthy of her name. Unelma translated to English means a dream. She has calved eight times, milked over 92,000 kg and is still stylish. Best lactation has been 13,051 kg milk. Unelma was shown in Finnish National show Farmari in Joensuu in July. The cow is owned by the agricultural unit of Ylä-Savo Vocational College. ●

Unelma (Miqur x Johde) from the Ylä-Savo Vocational Agricultural College was shown in the Finnish National show Farmari in July. She has calved eight times and produced over 92,000 kg milk.

News about VikingHolstein

ERDB-meeting in Latvia

Representatives from European Red Dairy Breeds had a meeting in Riga Latvia in June with 30 particpants from 10 countries.The only organizations having started to use genomic selection for red breeds are VG and Geno from Norway. In several countries red Holstein has been used to a larger extent than in the Scandinavian countries. This complicates genomic selection.

Hans Stålhammar presented the new breeding program of VikingGenetics. There was great interest in genomic selection and several questions on what can be done in the different countries to get started with genomic selection. One option available already today is to DNA test heifers together with VikingGenetics and receive the results expressed on the NTM scale.

On the second day, the participants visited Kalnaji - herd of the year 2014. At Kalnaji they milk 420 red dairy cows and the average production is 9,600 kg with high components - 4.6% fat & 3.6% protein. The age at first calving is 26 months and 2.7 lactations on average. ●

Hans Stålhammar presents the breeding program of VikingGenetics. There was great interest in genomic selection and how to benefit.

VikingHolstein sires free of the genetic defect HH6

A new genetic defect that so far is called HH6, has been discovered. The calves are showing diarrhea, pneumonia, small in size and homozygotes carriers die at the age of three weeks to six months old with an average of 85 days. The defect is related to fat and cholesterol metabolism.

Luckily it is already possible to test animals for this defect, though still only with 80% reliability in the result.

All bulls in VikingGenetics tested

The defect can be traced back to the Canadian bull Maughlin Storm born in 1991. His son L Talent and grandson B Goldwyn are also carriers. VikingGenetics sires have all been tested for the defect and only 2% of the bulls born from 2010-2015 are carriers. The most used carrier is VH Blume and a recently used Red Holstein called VH Axel RC. The widely used Goldwyn son VH Grafit is not a carrier.

The frequency is much lower in VikingGenetics sires than other AI companies, which for sure is because M Storm pedigrees are almost not present in our sire lines. Another element is the fact that we have general health as a selection criteria in our NTM and in that way selected against the negative effects from HH6.

So to line this – none of the sires promoted by VikingGenetics are carriers of HH6. ●

VH Loop (D Limbo) is one of the fine genomic sires.

VH Mandel daughter from Kaj Ingmar, Folstedgård, Denmark

Fewer but better bulls

Over the later years, great changes in the breeding work have had significant impact on the keeping of bulls in VikingGenetics with fewer bulls, more sires of sons and higher genetic progress.

A sustainable breeding scheme has focus on variation in the genetics. It is the variation that in the long run will ensure that we maintain the high genetic development. In VikingGenetics we focus on this. Table 1 and 2 are based on sires born in 2013 and 2014, bought by VikingGenetics and used for insemination. In total there are 273 VikingHolstein sires; 147 born in 2013 and 126 in 2014.

The 273 VikingHolstein sires have

- 110 different sires corresponding to 2.5 sons in average per sire
  - Including 43 foreign sires and 67 Viking sires
- 89 different maternal grandsires

Annual progress of 5.6 NTM units!

Table 1 shows the average genetic level for the sires per birth year. As the figures show, there is progress for all traits (>100). It is also clear that for production, udder health, udder and longevity the sires are superior to the cows (figures in the 2014 column are highest). The high average NTM of +27.0 and +32.6 show impressive progress of 5.6 NTM units from 2013 to 2014.

Table 2 shows that 196 sires were born in Denmark, 39 in Finland and 38 in Sweden. This reflects very well the distribution of the Holstein cows in the countries with a small majority of cows in Denmark due to the higher activity of ET in Denmark. ●

Table 1 Average genetic level for VikingHolstein sires

	2013	2014
# sires	147	126
NTM	27.0	32.6
Production	115.1	120.2
Udder health	110.0	110.8
Female fertility	107.5	108.3
Frame	105.4	105.7
Feet & legs	106.1	110.3
Mammary	113.6	115.6
Calving ease	108.7	108.3
Hoof health	107.4	106.5
Longevity	116.7	118.6
Milking speed	102.7	102.7
Temperament	104.4	103.2

Table2 # of sires born in 2013 and 2014 per country

	# sires	Share (%)
Denmark	196	72
Finland	39	14
Sweden	38	14
In total	273	100

News about VikingJersey

VikingJersey reaches 300 kg protein

A milestone was reached early this summer when the Danish Jersey cows reached 300 kg protein in average and last year 7,000 kg milk and 400 kg fat.

- VikingJersey's production goal for 2020 is 440 kg fat and 310 kg protein and we have faith in a much higher production potential in the future Jersey cows. ●

Danish DJ Zuma daughter - the international visitors this summer in Denmark were impressed.

How we find the best bull calves

Each year VikingGenetics sends out approximately 1,500 contracts for breeding/pregnancies and the goal is to test 500 bull calves annually. Among these we select the 50 genetically best for the breeding work.

A new analysis with the goal to optimize selection and purchase of bulls shows that 52 bulls born in 2014 have an average NTM +19 and production index 114. A level that will increase even more when the number of AI bulls in near future will be reduced from 50 to 40.

Finding alternative pedigrees to ensure the variation in genetics and maintaining the genetic development has strong focus in VikingGenetics:

52 purchased Jersey bulls born in 2014 have;

- 26 different sires corresponding to two sons per sire in average
  - Including the two foreign bulls and 24 Viking bulls
- 24 different maternal grandsires

Tabel 1 shows the six sires with the most sons in VikingJersey. Before we distribute semen, the groups will be selected and the number of VJ Lure sons will definitely be reduced. ●

Table 1 Sires of sons with most sons born in 2014

	# sons in Viking
VJ Lure	8
VJ Link	4
VJ Bing	3
VJ Gulf	3
VJ Light	3
VJ Tester	3

Small, European Jersey populations **want closer cooperation**

In many European countries the Jersey populations are too small to calculate breeding values for these animals. With genomic selection and the possibility to test females, many feel that they are left behind when not having the same options as the Jersey farmers in VikingGenetics.

During the latest meeting in European Jersey Forum, EJF, several countries wished to have their animals included in the Nordic Cattle Genetic Evaluation (NAV), and the Norwegians already started negotiations about this. At first there may be both financial and technical challenges, but without any doubt it will add value to European jersey farmers - and VG - if all work with Nordic breeding values. At the moment many animals from small, European populations are in genomic test in both USA and Denmark. However this does not make any sense if the animals do not already have national indexes that can be compared to the genomic indexes – or if only few animals in the herd are in test. ●

Combining X-Vik, **genomic sires and beef is popular**

The use of X-Vik semen is 17-18% of all Jersey services in Viking. This clearly indicates that there is focus on breeding livestock from the herd's best animals. Many farmers combine the X-Vik strategy with increasing use of beef semen for the poorest females and at the moment 9% of the VikingJersey females are pregnant with beef sires. ●

International focus on VikingJersey during **the Danish National Show**

To finish off the World Jersey Cattle Bureau meeting in Germany in June, a group of approximately 40 international guests visited Denmark and the Danish National Show.

If the guests hadn't paid any attention to DJ Zuma before their visit to Denmark, they will now! The visits in Danish herds and not least at the Danish National Show perfectly showed the high genetic progress in VikingJersey. Many participants, especially from USA, New Zealand and Australia, haven't visited Denmark since the Jersey World Congress that was held here in 2002. All of them were impressed by the high genetics and production level as well as the uniform conformation of the modern Danish Jersey cows. ●

DJ Zuma daughter no. 1444 from Jørn Mikkelsen, Denmark, was Grand Champion 2015 at the Danish National Show. Soon we will have a son at VikingGenetics.

Sires in focus

Great stability in the Holstein indices - and interesting new bulls

The index run on 11 August showed great stability in the indices. NAV introduced a new rule for transition from genomic breeding values to daughter proven by rising the reliability levels before changing from genomic to daughter proven information.

The effect of this change is different from sire to sire, depending on the number of daughters in the index. It's positive that only the most reliable information is used and published.

VH Bentzen

(VH Bismark x Juwel x Oman Justi)

The son of the Jewel gives you calving ability

VH Bismark daughter (Lisetta) from Anderstrup Holstein, Denmark

VH Bentzen is a new and interesting daughter proven sire who jumped seven units in NTM and is now the second highest with +25 in NTM. He is son of the famous VH Bismark and his dam is a Juwel (Jesther) cow from Jens Noergaard Bentzen from the Northern part of Denmark. This dam is a tremendous cow with an average of almost 12,500 kg milk in average with really high components and classified VG88. Her dam is one of the best Oman Justi daughters – Noergaard Oman Wendy – that was an intensively used bull dam classified VG89, just like her dam - a super T Funkis daughter.

VH Bentzen has 178 daughters in milk with 92 classified in 83 different herds. Very functional cows with high production and good udder health. On top VH Bentzen is superior for milking speed (123) and maternal calving ease (121).

VH Salomon

(D Sammy x Oman Justi x Merdrignac)

King Salomon

VH Salomon daughter from Poul Nielsen, Denmark

A sire that has been with us for a while is VH Salomon. He is born in 2008 with plenty of daughters milking around the world. He just seems to get better and better. Today he has NTM +18 and showing the values that Holstein cows in general needs – sky-high hoof health at 126!

The Oman dam is really special when it comes to components in the milk. In average of 4.4 years she produced 10,500 kg milk in average with 4.89% fat and 3.76% protein. Not many Holstein cows are able to do this and the great thing is that this skill is passed on to VH Salomon. The Merdrignac grand dam was classified VG88 and before her a VG87 V Bojer.

Take a look at the list of genomic bulls that Viking can present, where you find many super bulls from VH Salomon cows. This underlines the power of VH Salomon.

VH Griffin

(VH Gregor x VH Salomon x Mascol)

Interesting sire line

VH Griffin

VH Griffin is one of many bulls with top VikingGenetics sires in the pedigree. Sire being VH Gregor - a VH Grafit x V Exces and then VH Salomon as maternal grand sire. He is from Terhi & Pasi Valkama in Finland.

His proof shows a really good balance with outstanding health and fertility traits, extraordinary production with high components and functional conformation.

VH Cosmo

(VH Clark x Router x Oman Justi)

Your choice!

VH Cosmo

VH Cosmo is a bull you should pay attention to. He is bred by Michael Jensen, Denmark. His sire VH Clark has NTM +24 and is the number four ranking daughter proven bull, and nice already to be able to get his sons – one of them is VH Cosmo. His dam – a Router (Roumare x Ramos) cow is a high-producing cow averaging over 1,000 kg fat + protein in her first lactation and classified VG87.

Her dam Hoejgaard Oman Claire is also dam of the D Jul son VH Jaywalk that has been used a lot in the Viking area and will have several good sons in just half a year.

VH Cosmo is just like his sire a really good bull for hoof health, and shows great fertility and calving ability, high components and fast milking cows with good udders. A super choice for you!

VH Optio

(Offie x VH Grafit x Rakuuna)

Two top bulls from the same VH Grafit cow

VH Optio

The number one bull of the breed measured on NTM is called VH Lemek. He is a VH Lund son with NTM +42 and still working hard in the semen collection room to get enough available. From the same VH Grafit cow we also present VH Optio – an Offie (Observer) son.

VH Optio is from Anne Leskinen in Finland, where he was bought as an embryo and the VH Grafit cow is owned by Asger & Christian Ladefoged, Denmark. The VH Grafit-cow classified 84 has now been producing for one year and made impressive 16,800 kg milk with 1,270 kg fat + protein (3.70% protein).

By using VH Optio you get major progress on female fertility (123), maternal calving ease (118), udder health (112) and production (120).

VH Cap Red

(DRH Can Be x Fidelity x DRH Tahiti)

Red Holstein from excellent cow family

DRH Can Be - sire of VH Cap Red

The Red Holstein sires in VikingGenetics have shown a tremendous progress the last couple of years. Please check our webpage where several good Red Holstein sires are presented.

One of these bulls is VH Cap Red. He is a DRH Can Be son from a really strong cow family. In 1.1 year the Fidelity cow has produced 11,700 kg milk with 930 kg fat and protein and classified VG87. She is also the dam of VH Fun Red, which is a Red Mist son at NTM +38 that is just starting semen production. The grand dam of VH Cap Red – the DRH Tahiti cow - is the dam of DRH Falk (Fidji son with +25 in NTM).

VH Cap Red is a super production bull combined with good udder health and excellent feet & legs.

Polled bulls with different sire lines

In some parts of the world polled sires are becoming more and more an issue. VikingGenetics also has focus on this, and some of our polled bulls are shown in table 1. As you can see there is a good varia-tion in the sires behind.

Heterozygotic polled bulls

Name	Sire	MGS	NTM
VH Pluto P	Picanto	Oman Justi	+28
VH Ota P	VH Oak P	VH Grafit	+27
VH SpyP RC	Shanosber	Destry RC	+24
VH Eenix P	EarnhardtP	VH Grafit	+23
VH Oneal P	VH Ove P	Stäme	+20

VR Fimbe

(R Facet x R Festifal x Micmac)

Number 1 progeny sire

VR Fimbe daughter from Iskola Sonkajärvi, Finland

VR Fimbe went up in NTM and is now +26 and the number 1 of progeny tested sires in VikingRed.

This great sire was a GVP in 2012 and today makes an excellent combination of production (118), type and high components. The daughters are fast to milk and average in udder health. They are also tall with excellent feet & legs (115) as well as great udder conformation.

VR Wand

(Womtorp x Gunnarstorp x O Brolin)

Production, fertility and health

VR Wand

VR Wand comes from Lövsta Landbygsgymnasium in Sweden and has been a top sire in VikingRed for a long time.
Maternal grand sire is the famous Gunnarstorp born in 2002 and still our bestseller during this year for export. Wand is from a long-lasting cow family and his dam has excellent udder health and correct teat placement. Wand is on top in production combined with good fertility and heath traits. He inherits average size and fine bone quality as well as udder quality.

VR Umbro

(VR Uudin x Alpu x Upsis)

Excellent udders

VR Umbro

VR Umbro comes from Viehko Co, Finland. He is an Uudin son out of a Rokkilan Alpu cow. At the moment he is sharing the podium for Uudin sons with VR Uulas.
The story behind MGS Alpu comes from Asmo flush made by the Canadian sire Margot Calimero. The female result was mated with DuoStar Normadin ending up to Alpu. Umbro is a great udder health and udder conformation sire. He is also positive in all health and fertility figures.

VR Barkov

(VR Borsse x G Edbo x R David)

Component and calving ease

VR Barkov

VR Barkov is a new genomic sire with NTM +29 and he is sharing rank 2 in the VR Borsse son group.
VR Barkov has a full brother - VR Bruhn - being one NTM unit lower. They come from the perhaps most successful VR cow since the introduction of genomic selection by Morten Hansen, Denmark. First she gave VR Felipe and VR Faber that have been widely used all over the world. Now there are VR Barkov and VR Bruhn. The dam, a G Edbo cow, has been flushed eight times and given 31 calves. Barkov is a sire with high components, easy calvings and excellent longevity.

VJ Bihl

(VJ Buzz x DJ Hulk x DJ May)

Production, type, mammary and outcross

VJ Bihl

Like VJ Hihl, this bull is bred in the Bruunsgaard herd, by Henrik Bruunsgaard Fihl. VJ Bihl is out of "Bruunsgaard Hulk Amalia", a different cow family than the VJ Hihl family. This cow family is also well-known for high percentages, all higher than 6.15% fat and 4.15% protein. "Amalia" has ended second lactation, averaging 6,800 kg milk, with 6.36% fat and 4.17% protein.

VJ Bihl is the first son of the genomic bull VJ Buzz (DJ Broiler x Q Hirse). VJ Bihl is topping the list and he breeds production, high percentages, type and body capacity, as well as good shallow and well attached udders with ideal teat size and placement. On top super udder health and longevity.

VJ Bihl is an excellent choice for daughters with no Hulk and May genetics, where stature, type and mammary need improvement. VJ Bihl will be heavily used as sire of sons over the coming months.

Triple aAa: 342 *Cappa Casein: AB* *Beta Casein: A2/A2* *JH1 Free*

VJ Hihl

(VJ Husky x DJ Zuma x JAS Bungy)

Type, mammary and outcross

VJ Hihl

VJ Hihl is out of "Bruunsgaard Zuma Sangko" by Henrik Brunsgaard Fihl, Denmark. The maternal family is known for high components - all higher than 6.25% fat and 4.25% protein. "Sangko" has ended second lactation, averaging 7,500 kg milk, with 6.51% fat and 4.37% protein.

Like his sire, VJ Hihl breeds like excellent stature, type, udders and teat size - and VJ Hihl udders are even more shallow and with strong ligament. He excels in udder health and the high components are also trademarks.

VJ Hihl is an excellent choice for daughters where stature, type, body capacity and mammary need improvement. The first VJ Hihl sons are being genomically tested to locate the next generation of top bulls from this fantastic sire line.

Triple aAa: 342510 Cappa Casein: BB Beta Casein: A2/A2 JH1 Free X-Vik semen available

VJ Hubert

(VJ Hulk x Q Hirse x JAS Hot)

Daughter proven type specialist

VJ Hubert

VJ Hubert is out of "Adelgaard Hirse Cheryl", in the Adelgaard herd by Vagn Lindy Petersen, Denmark. The maternal family is known for high production and components. Adelgaard Cheryl ended four lactations with an average of 6.42% fat and 4.21% protein.

The sire line up in VJ Hubert's pedigree is outstanding – Hulk, Hirse, Hot, Lemvig – all top sires used world wide. The gene distribution is 77% Danish genes, 13% US and 10% NZ.

VJ Hubert breeds stature, type, excellent shallow as well as excellent udder health and longevity, and he is an excellent choice for daughters of DJ Zuma and where stature, type, and mammary need improvement.

VJ Hubert has 246 daughters in milk recording of which 136 are scored, and he was used as sire of sons as a young genomic bull, resulting in VJ Rodme.

Triple aAa: 243615 Cappa Casein: BB Beta Casein: A2/A2 JH1 Free

VJ Rodme

(VJ Hubert x DJ May x Q Impuls)

World leading genetics in the first VJ Hubert son

VJ Rodme

VJ Rodme is out of "Rodme Nygaard May Kirsten", bred by the Hansen family, at Rodme Nygaard, Denmark. VJ Rodme is the first son of VJ Hubert (DJ Hulk x Q Hirse) and carry an extremely strong line up of sires in the pedigree: Hulk, Hirse, May and Impuls.

The dam of Rodme scored VG 87, has milked for 2.4 years with a yearly average of 7,400 kg milk, 5.76% and 429 kg fat, 4.12% and 307 kg protein. Both MGD and MGGD had productions on the same high level and well over 300 kg protein per year.

VJ Rodme breeds tall daughters with very good capacity and frame, along with extremely shallow and well-attached udders. Udder health and longevity are other of VJ Rodme's trademarks.

VJ Rodme is used heavily as sire of sons.

Triple aAa: 243 JH1 F Cappa Casein: BB Beta Casein: A2/A2 X-Vik available

3rd lactation and older cows

BY CLAUDIO MARIANI

Torre Santa Maria 100% VIKING – what does it mean?

At the dairy "Torre Santa Maria" in Spain they use the best tools available today on the world's market for healthy, productive and long-lasting cows: VikingGenetics.

"Torre Santa Maria" is a mix of old and new: recent buildings have just been added to pre-existing ones, but Joan Baptista Pons, the 31-year old owner, has his mind clearly set into the future of dairy farming. Profit is a keyword in all the procedures undergoing at the farm. Joan Baptista is greatly assisted by Mireia Gené, the full-time vet supervising all the steps that lead to one of the most high-producing and high-profit farms in Spain.

The farm is currently milking about 1,600 cows, three times a day, in a rotary milking parlour of 60 places. At the farm lot of attention is given to milking, and procedures have been set as easy and mandatory at the same time. Pre and post dipping is a rule as well as much attention to any signs of disorder. A simple plastic board hung on the wall where to mark any cows with abnormal behaviour - a sort of pre-list of cows to be watched soon after and possibly treated.

The day a group of 50 persons visited the farm, only 11 cows were listed on the board. And that is out of 1,602 cows milked that day = only 0.6% problem cows! That was one of the really impressive things we noticed, immediately confirmed by the prescription shelf that was almost empty. At the farm they try to use the lowest amount of antibiotics and vaccines - both for ethic and for cost reasons. Healthier cows were one of the main goals when Joan Baptista started to run the operation.

How VikingGenetics changed the picture

A few years ago, the farm needed to buy fresh heifers to grow. They bought heifers from Denmark and since the animals were okay, they ended up with 200 Danish heads in total. As soon as they started to freshen, everything was okay. But during first lactation, the production figures were somewhat disappointing as the Viking heifers were closing the lactation somewhat behind the local heifers, mostly sired by US and Canadian sires. Joan Baptista was afraid he has done a mistake.

But when some of the Viking cows started their second lactation, numbers were rapidly changing in favour of the Vikings, showing a steep increase in their production and – more noticeable – they checked out the days open. Those Danish cows got back in calf much earlier than their herd mates. They had consistently less diseases, such as hoof problems, mastitis, or metritis. Therefore they needed much less

The group of Italian visitors by the gate of Torre Santa Maria

In June a group of about 50 people visited the dairy farm "Torre Santa Maria" located near Lleida in Spain. The area can be reached by driving a couple of hours northwest of Barcelona and very suitable for farming. The land close to the Pyrenees Mountains has plenty of water, so crops can be grown with good results. Temperatures are cooler than in Andalusia – another Spanish area where also dairy farming is growing, but with more "north African" conditions.

Fresh cows

Explanation to the visitors

treatments and antibiotics. Also Mireia – the farm vet – was positively impressed by the Viking cows whose sanitarian status was definitely better than the herd mates.

The whole picture changed much in favour of VikingGenetics, and Joan Baptista decided to switch 100% of the AI into using Viking sires. He signed a 5-year agreement with Global Genetics, the Viking distributor in Spain, to breed all his cows and heifers to Viking sires, providing Global keeps an eye on inbreeding, which is another key factor for Torre Santa Maria. This is one of the early benefits by changing to Viking sires as they are outcross to the predominant North American genetics in the herd.

Much less problem with Viking cows

Today in Torre Santa Maria there are over 2,000 cows in total by Viking sires. Plus, all the young livestock. Bulls like D Etoto, VH Miracle, D Jul, D Mason, D Onside, D Orange, D Limbo, Rakuuna and V Cadiz have either their daughters in milk or ready to come with few to zero problems and get back in calf within 100 days. The average days open is 145 with 80-90 days of voluntary waiting period. The delay between first and last insemination is about 60-70 days which is definitely not too bad for a herd milking well over 37 milk kg / day - and with average 180,000 SCC.

All the cows lay on dried manure, with no need to add other products. The first and second calvers stay on cubicles, while third and older are in a new 10,000 square meters free stall barn. "If you want your cows to get older, you have to move them away from cubicles when they mature", Joan Baptista says. And by looking into his "older girls' barn", you see how right he is: the cows look much younger than their age is and anybody can tell how much space they have. "We started off with the idea of giving 20 square meters each, then we ended up by 18, but I still think this is a limit we shouldn't trespass", says Joan Baptista and Mireia, the vet.

As confirmation, just take a look at the dry cows' barn: a huge cathedral for so few animals. "We want our cows to have as much space as we can in their transition time", Mireia says, "and as a consequence, the infirmary is almost empty". Difficult calvings close to zero - also because this trait is considered when choosing bulls to heifers. Right after calving, each calf has to drink six litres of colostrum.

Adding value

The future isn't any different for Torre Santa Maria than any other dairy and they also struggle with a low milk price from 28 to 31 € cents, but they have taken their way to survive. They just bought a small cheese making factory so part of their milk will be processed and part sold as liquid. They are self-sufficient for power with their own bio gas plant, they make the best they can out of cow's manure, and they keep attention high to any stage of cows' life and put the animals in the best possible conditions.

And, of course, they use the best tools available today on the world's market for healthy, productive and long-lasting cows: VikingGenetics. ●

Daughter of A Linné nominated as an **Ayrshire Grand Champion in Colombia**

VikingGenetics celebrated Colombian national day on July 20 the best possible way as a daughter of A Linné was nominated Ayrshire Grand Champion in AgroExpo show in Bogotá, Colombia.

The champion cow El Trébol A Linné Betina ET (A Linné x BB Kellogg) has calved three times. She completed her second lactation (305 days) with more than 10,000 kg and at best has peaked to 52 kilos of milk after the third calving. Betina ET comes from the farm Hacienda El Trébol owned by Doctor Felipe Calderón, the president of Ayrshire Association of Colombia.

The Canadian judge Dave Bergeron who judged the Ayrshire show, was very impressed by the general level of Ayrshire cows and heifers in the show ring. Mr Bergeron praised the Grand Champion cow for her long, balanced body, amazing dairy strength, good feet & legs and excellent udder.

A tall, stylish daughter of Peterslund won her class of cows older than six years, and was rewarded with an honorable mention. Also a very balanced, deep-bodied heifer from R Facet won her class of heifers age 6-9 months.

VikingGenetics congratulates Doctor Calderón and also all other Colombian breeders who have daughters of Viking bulls. Satisfied customers and profitable, long-lasting cows are our best promotion in this beautiful South American country. ●

El Trébol A Linné Betina ET was nominated Ayrshire Grand Champion of AgroExpo 2015 in Columbia.

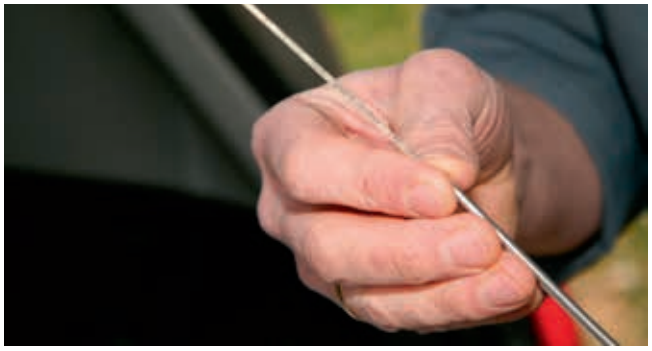
The three best Ayrshire cows in the show ring.

The A Linné champion cow has amazing dairy strength and excellent udder.

This daughter by Peterslund was rewarded with an honorable mention.

The first VH Strong calves born in the UK are reared on machines at the Parris family farm in Somerset. Higher grade milk powder, along with machine rearing helps Russell Parris achieve excellent growth rates for 24-month calving. Using a converted piggery with slatted floor at the feeding area provides a year-round dry and healthy atmosphere.

Bulling heifers at grass during the summer.



DIY AI more successful than **natural service bulls**

Russel Parris moved from the use of natural service bulls to a DIY AI programme. It has reduced calving interval from over 400 to 385 days, it gives control and certainty and it has increased production from 7,400 to 8,000 litres per cow.

The Parris family run a herd of 330 Holstein cows in Somerset, UK and like many dairy businesses; the family have embarked upon a now familiar path of seeking to simplify herd management to control costs. Cows calve all year round with all offspring reared - either for replacements or sale as 20-month old stores.

Breeding Goals

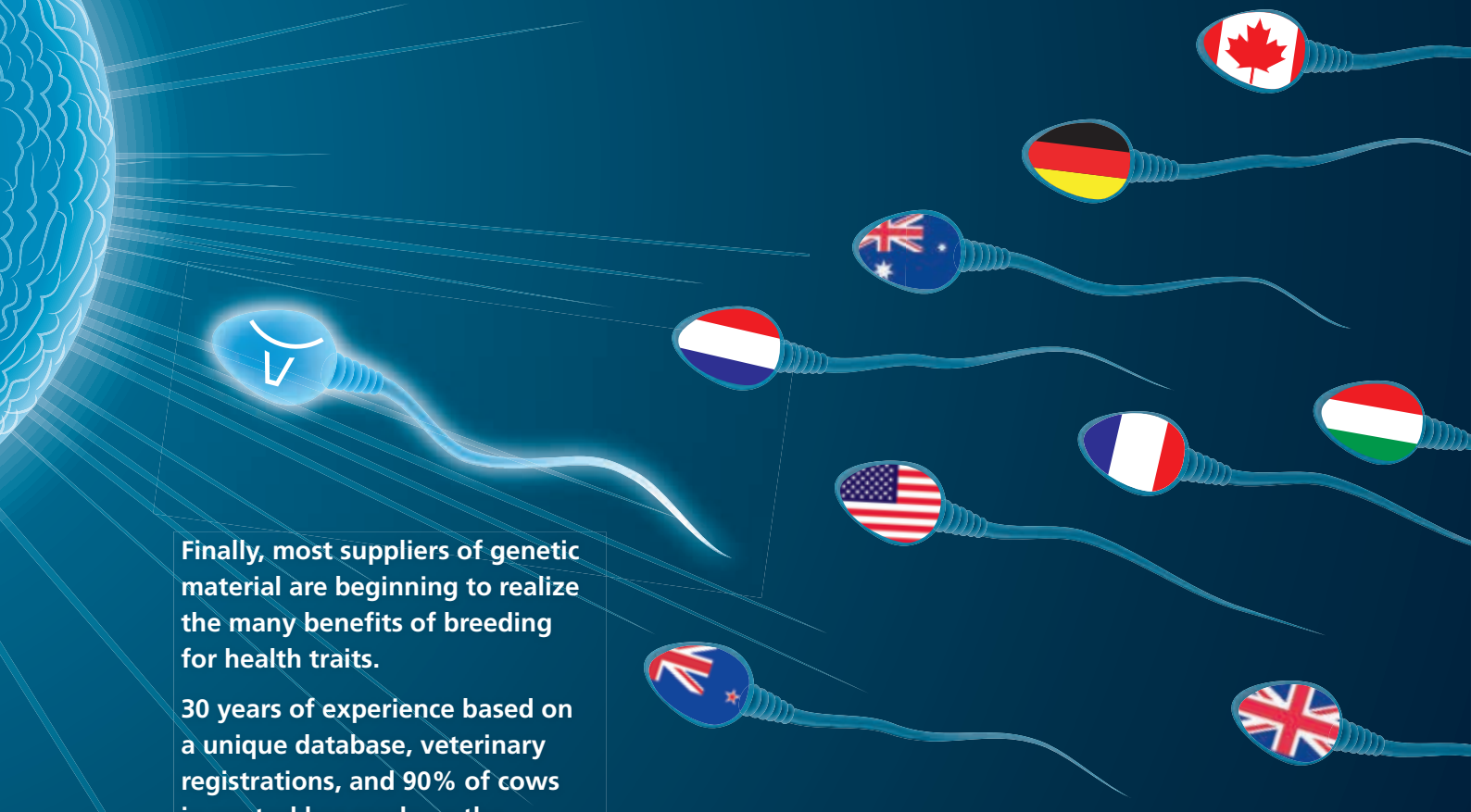
Semen from VikingHolstein sires is playing a major role in a breed programme designed to improve fertility and calving index; strengthen hoof health and feet & leg structure and continue to provide steady gains in production. The Rakuuna sons, Raket and Real, were used to make the extreme Holsteins in the herd more compact. Following that, D Ole, VH Strong and now VH Sparky have all been selected to add body capacity so that large volumes of forage can be consumed, as well as improving the production and locomotion traits.

Sexed semen is used on heifers in the winter months, when both diet and heat detection can be managed with greater accuracy.

Highs and Lows all graze

The importance of hoof health, along with feet & legs, cannot be stressed sufficiently since the farm has also been turned over to all grass. Both high and low yield groups are expected to graze on the flint soils, sometimes walking almost two km a day, including across some steep valleys. That said, the farm is able to grow good crops of grass throughout the season. ●

Leaders are those with followers



Finally, most suppliers of genetic material are beginning to realize the many benefits of breeding for health traits.

30 years of experience based on a unique database, veterinary registrations, and 90% of cows in control has made us the undisputed leaders when it comes to breeding for profitabilty.

Don't settle for anything less than the real thing!

VIKINGGENETICS®

adding value every day

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