vikingnews

NO 01 / MARCH 2017

Fertility Comes First

Our new approach to improve dairy-life in Australia

10 YEARS
OF X-VIK

NEW OFFICE
IN UK

GenVik

VikRank

VIKINGGENETICS

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Cover photo
Our Sales Representative in Australia, Darren Fletcher, took this picture of Australian cows. VikingGenetics is now launching Fertility First as a reproductive tool for the Australian dairyman.

Editorial

Big plans
for this year

Two months into 2017, looks in many ways that it might be a better year than last one, with an improved dairy economy. VikingGenetics goes with full speed and has started an own venture in the United Kingdom (UK).

VikingGenetics has been on the UK market for a long time. Our genetics are well-known by the dairy farmers that have experienced good results. The interest for animal welfare, the trend for grazing as well as crossbreeding, along with the growing interest for Jersey, are all reasons that work in our favor.

At the same time, the VikingGenetics' bulls rank well in the £PLI system. Now we have a dedicated team in the UK giving 100% to make this operation a success.

Meantime, in Australia, we will increase our offer to the customers by providing them reproduction services, Fertility First – powered by VikingGenetics with the help of a specialist reproduction advisor from Sweden. We have already tried it out and the fertility improvements are significant.

In this issue of VikingNews, you can also read a report from one of the visits we had last year, where researchers from around the United States (US) were at VikinGenetics. It is always a pleasure to show our systems and animals, sometimes very encouraging as you get "home blind" and take things for granted – like the excellent recording and access to health data for example – the foundation for our strong selection for heath traits.

As Les Hansen from the University of Minnesota states: "In all these health and fertility traits, the data from the Nordic countries is of higher quality, how carefully it is recorded: the accuracy of the pedigree and the sophistication of the recording systems is what we consider unique."

As usual, you will also enjoy the update on the latest bulls in VikingNews, and don't forget to check out the VikRank – the tool that enables you to make a customized ranking that fits your criteria, based on all the unique traits from the Nordic system.

Sara Wiklert Petersson,
Head of Sales, VikingGenetics

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"I breed cows that can be left home alone"

Flemming and Trine Pedersen use the NTM (Nordic Total Merit) index as a guide in their breeding. They prefer healthy and productive cows on their farm in Fjerritslev, Denmark.

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A decade of success with sexed semen

Without any doubt, sexed semen revolutionized cattle breeding and modern herd management. The possibility of active sex determination for newborn calves is appealing for many farmers from both economical and practical reasons.

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Reliabilities on genomic indices are increasing

VikingGenetics breeding schemes are under constant development to secure maximal genetic progress. In 2016, we used about 100 VikingHolstein, 100 VikingRed and 40 VikingJersey bulls that all start as sires of sons in our breeding scheme and all on high NTM level.

By Lars Nielsen, Breeding Manager

Our sires of sons are getting younger as most bulls start semen production before they are one year old. In addition, bull dams are getting younger so the generational interval has been reduced – which is an important tool to increase the genetic progress per year. This means that all donor females are young, genomically tested heifers and all sires of sons are very young, genomically tested bulls.

Our use of embryo technology to produce the next generation of top bulls is increasing and is expected to be even more intensive in the future.

The sale of semen at home market is close to 100% genomic bulls. We also have an excellent variation of daughter proven bulls supplying our great portfolio of top genomic bulls in all three dairy breed programs.

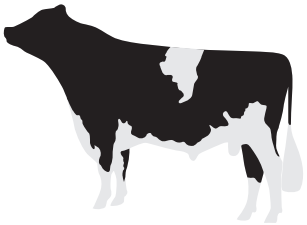
The reliabilities on genomic indices are increasing. This in combination with lower prices on genomic tests mean that for 2017 we expect to test close to 100,000 females in our home markets as a management tool in the dairy herds.

Genomic test of females in combination with X-Vik sexed semen on best females and beef semen on low ranked cows improve genetic progress and profitability on the farms – and we expect to grow this tool. The possibility of genomic test of females on the NTM scale is also available for our foreign markets. Please contact your local distributor for more information. •

News from our breeds

VIKINGHOLSTEIN

10% of purchased bulls in North America in 2017



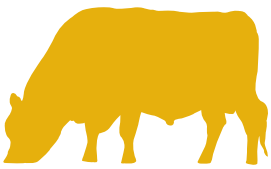
VikingGenetics has a goal of having 10% of our Holstein bulls purchased and housed in the United States (US) and Canada during 2017. There are two main reasons for that: First, it gives us the opportunity to have more of our bulls available for export to third countries, and second reason is to be able to find different pedigrees in the US, still with Nordic Total Merit (NTM) as the only selection criteria.

So far, we have had great success in finding bulls in the exchange project with NOG (Nord-Ost Genetics), but now in North America and Canada it will be more based on our own selection.

Recently, we have bought six bulls in the NOG cooperation, three in Germany and three in North America and Canada.

VIKINGJERSEY

17,500 Jerseys in the genomic reference population



For VikingGenetics, it is important to genomically test females to get their data into our reference population. This mechanism ensures high reliability of genomic proofs, and for us this is crucial. Daughter proven bulls contribute with more information per individual, but with this high number of cows it give us valuable information that we use in the breeding program.

In total, we have 2,800 Danish and North American Jersey bulls in the reference population and 17,500 cows. Females can only contribute if we have all registrations available – milk recording, classification, health and reproduction data.

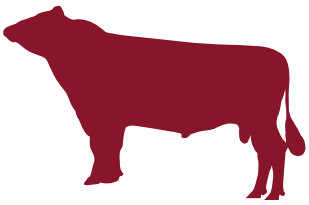
Breeders from other countries are encouraged to test their Jersey females in our system, to have highly reliable breeding values and better selection tools with NTM.

Increased number of Jersey bulls from ET

25% of the bulls bought in 2016 were a result of ET (Embryo Transfer). This year, it is expected that 50% of the bulls entering VikingGenetics bull stations will be from ET. The reason is the increased focus on ET and OPU (Ovum Pick Up) as well as the opening of ET heifer barns in 2016.

VIKINGRED

Progeny tested sires, favorites on export market



At the export markets, clients still rely a lot on progeny tested sires. All the sires among the Top 10 most sold bulls last year on export, are proven bulls. The most sold genomic sire was VR Hel P, a polled sire, on 11th place.

VR Hjusticia and VR Grolle from Sweden, as well as VR Umbro from Finland were really worth transferring to Denmark into X-Vik production. They are all among the four most sold sires. VR Donato, who is on the 3rd place, has been sold mainly at export markets for ProCROSS.

VikingGenetics ahead
despite global milk crisis

VikingGenetics has succeeded in maintaining the sales on export during 2016, despite very tough market conditions followed from the global milk crisis. The first part of the year was very tough in Australia, but in the end of the year the sales recovered and the last quarter was 20% higher than the year before.

By Sara Wiklert Petterson, Head of Sales, VikingGenetics

The largest export markets for VikingGenetics last year were Australia, the US and Norway. The three Viking breeds have a quite even distribution of export income: 34% VikingRed, 36% VikingHolstein and 27% VikingJersey. VikingJersey was the breed with the highest growth 28%, due to better availability of X-Vik.

ProCROSS

Furthermore, ProCROSS has increased its total sales during last year. The mix of breeds have been in favor for the Montbéliarde. The engine in the growth of ProCROSS is the market in the United States (US), where the crossbreeding concept has grown with double digits.

More and more genomic bulls

The trend goes for more and more genomic bulls. Today 50% of the sales on export are from genomic bulls, and the sales are spread on many different bulls today. Still you find some of the old proven guys in the top of the bestseller.

VikingGenetics in 2017

VikingGenetics is optimistic for 2017. We expect the ProCROSS concept to continue to develop positively in the US. Furthermore, we have started our own subsidiary in the United Kingdom (UK) to be able to give our fullest support to the increasing interest for our genetics. In Australia we launched the Fertility First service, and at the same time we are welcoming this growth of the Jersey breed worldwide. All in all the future looks bright. ●

5 largest markets

- Australia
- US
- Norway
- France
- Great Britain

Most used bulls
on export markets in 2016

We are proud to present our 2016 bestsellers for our export markets. Leading VikingHolstein we have VH Bynke. He is outstandingly good for traits as longevity, resistance to general diseases and has a very good hoof health index and for high milk production. Leading the favorite bulls for VikingRed is V Föske. He is excellent in transmitting longevity and fertility to his daughters. The most demanded VikingJersey bull was VJ Hilario with an admirable production, daughter fertility and longevity. ●

VIKINGHOLSTEIN®

TABLE 1.
TOP 10 MOST USED BULLS ON EXPORT MARKETS IN 2016

Name	Sire x MGS	NTM	
VH Bynke	VH Bismark x Ramos	+17	Proven
VH Mando	Mascol x D.Novalis	+13	Proven
D Sol	P Shottle x T Funkis	+10	Proven
VH Strong	Stol Joc x Oman Justi	+2	Proven
VH Peder	Planet x Elo	+21	Proven
VH Omega	D Onside x Slättaröd ET	+15	Proven
VH Miracle	Massey x Roumare	+19	Proven
VH Bolus	Balisto x S Bolton	+33g	Genomic
VH Bernell	Bube x VH Salomon	+32g	Genomic
VH Sleeman	VH Speedo x VH Osmus	+24g	Genomic

By using VikingGenetics, you will always make the most profitable choice.

VIKINGRED®

TABLE 2.
TOP 10 MOST USED BULLS ON EXPORT MARKETS IN 2016

Name	Sire x MGS	NTM	
V Föske	T. Miqur x Gårdö	+9	Proven
VR Donato	David x R Admiral	+20	Proven
VR Dalton	Degn x R Admiral	+20	Proven
VR Cigar	Cirkel x R Alfa	+10	Proven
VR Solero	Sörby x Orraryd	+8	Proven
Pellpers	Flarkbäcken x Botans	+14	Proven
A Linné	Orraryd x Syd Abru	+4	Proven
Gunnarstorp	Kelli x Syd Abru	+12	Proven
B Jurist ET	T Bruno x Jägarbo	-3	Proven
VR Taara ET	Turandot x Miqur	+20	Proven

VIKINGJERSEY®

TABLE 3.
TOP 10 MOST USED BULLS ON EXPORT MARKETS IN 2016

Bull	Sire x MGS	NTM	
VJ Hilario	Q Hirse x Q Impuls	+19	Proven
VJ Link	Legacy x Q Hirse	+15	Proven
VJ Husky	DJ Hulk x DJ May	+11	Proven
VJ Rodme	VJ Hubert x DJ May	+17g	Genomic
VJ Haley	VJ Husky x DJ Zuma	+19g	Genomic
VJ Hihl	VJ Husky x DJ Holmer	+15g	Genomic
VJ Hoj	VJ Hjern x DJ Zuma	+19g	Genomic
VJ Lusaka	VJ Lure x DJ Jante	+14g	Genomic
VJ Livius	VJ Link x DJ Hulk	+16g	Genomic
VJ Hizzi	VJ Hillum x DJ Izzy	+16g	Genomic

Exclusive visit. A group of 20 specialists in genetics, cattle breeding and dairy management came to VikingGenetics to learn more about our breeding program. There were representatives of the University of Minnesota, University of Wisconsin, North Carolina State University, Penn State University, University of Florida, Iowa State University and Cornell University in New York.

Scientists
from the US impressed with VG's genetic progress

VikingGenetics had a visit of a group of 20 researchers, specialists, and professor in dairy management systems, genetics and cattle breeding from prestigious universities in the United States (US). They admired the genetic progress VG has achieved to breed for a profitable cow with the focus on health, and recognized the benefits VG's breeding program and ProCROSS system can bring to the dairyman in the US.

By Verónica Löfgren, VikingGenetics

Dr. Les Hansen from the University of Minnesota led the group of specialists. Hansen is responsible for the studies that resulted in the ProCROSS concept, the only scientifically proven crossbreeding system in the world.

The group learned by first-hand about VikingGenetics' breeding program and had the opportunity to visit farms and talk with dairymen in Sweden. They admired the way the dairyman works with feeding the registration system, which makes it unique.

"In all these health and fertility traits, the data from the Nordic countries is of higher quality, how carefully it is recorded: the accuracy of the pedigree and the sophistication of the recording systems are what we consider unique," Hansen states.

He adds that the US has the potential to make a general registration system, but there is no willingness from the industry to work in this line. "We don't have the emphasis in the quality recording and centralization of the data.

Nobody wants to pay for it. Our records are processed at different places in the US, so we don't have the centralization or even the software at the farms. The other problem is that the farmers are not willing to share this information", the professor explains.

Among all the problems that the US dairymen are facing now, the size of the Holstein cow is at the top. "The biggest problem is the fact that the cows are too tall to fit in the cubical, and they have health problems", he explains. "This situation is a catastrophe, particularly if they die after first calf because you don't have profit. It's just loss", Dr. Hansen states.

Holstein is the predominant breed in the US, with around 82% of the total cow population. The inbreeding rate in the breed is a problem. "That is a growing concern. Only 41% of the cows are in milk recording, we don't know their pedigrees and they are not genomically tested to get pedigree information; so the semen goes pretty randomly", Dr. Les Hansen points out. The inbreeding coefficient increases 1% every five years in the US population, he adds.

Smart solutions from Scandinavia

Questioned about how VikingGenetics can be of help for dairymen's problems in the US, Dr. Hansen doesn't hesitate one second: "Obviously, it is the ProCROSS where the movement is going now. Our research documents

» In all these health and fertility traits, the data from the Nordic countries is of higher quality, how carefully it is recorded «

Dr. Les Hansen

state that ProCROSS cows are smaller in stature and skeleton than average of the pure Holstein, and carry more body condition which helps them with the fertility and the health", he answers.

Then he explains that the research on ProCROSS also points the bonus a cow gains: Heterosis, – which is opposite to inbreeding. "So you solve your biggest problems for fertillity, health and avoid inbreeding".

He adds that VikingGenetics' recent entry to the US market with VikingJersey will be of much benefit to a special segment of the dairy industry. "Especially for cross breeding where many farms are already using Jersey because it is the second largest breed and because they really want to reduce the cow's size." Dr. Hansen explains. ●

Dr. Dr. Les Hansen from the University of Minnesota: "The data from the Nordic countries is of higher quality, how carefully it is recorded: the accuracy of the pedigree and the sophistication are what we consider unique."

Dr. Albert De Vries, Associate Professor, Department of Animal Sciences, University of Florida, Florida: "The US started to focus on the health traits more than 20 years after the Nordic countries. We still do not have the details or the registration system that you have".

Dr. Rebecca Cockrum, Assistant Professor in the Department of Dairy Science, Virginia Tech, Virginia: "I'm impressed with the progress on the health traits, and based on the farm tours we had, you can tell it is a fact: Healty cows equal better production."

Available now

Fertility first

- Scandinavian approach for better fertility

The "Fertility First" project consists of a pre-check before Artificial Insemination (AI) to guarantee that the selected cows for AI are the most likely to become pregnant. This tool can be crucial for the success of farmers with seasonal calving.

By VikingGenetics' staff in Australia and Sweden

"Fertility First" is the result of a study made by VikingGenetics in Australia. The main goal of the tool is to get the highest possible amount of cows pregnant fitting perfect to seasonal calving, which is more common in England, Ireland, Australia and New Zealand.

According to the InCalf fertility data Project 2011, the results for several fertility traits have declined over the last ten years in Australia. How to succeed when you don't have too much time and the fertility rate is dropping? The answer is a tailor made solution called "Fertility First".

Magnus Johansson has been the coordinator of the project "Fertility First" in Australia. The project has its origin in the strategy used by the breeding advisors in the Scandinavian countries, but was tailor made to suit the Australian conditions and needs.

The Scandinavian strategy was implemented as a pilot-project in North East Victoria. The most common way in Australia is not to pre-check the cows before starting the AI.

The project involved 2,500 cows in 10 herds, with a herd size ranging from 110 to 500 cows. Johansson classified the cows in five categories:

- Cystic Cows
- Problem Cows
- Non-Cycling
- Don't AI
- Ready AI

At the end, the study showed that "Ready AI" Cows and "Cured" Cows, those that were treated, have the same high pregnancy rate. ●

Facts of the pilot plan "Fertility First" in Australia:

- The check on the "Problem Cows" followed by recommended treatment, enhanced the pregnancy rate dramatically and increased the six-week-in calf rate to AI by 31% - **From 44% to 75%.**
- Cows classified, as "Non-Cycling Cows" and "Do Not AI-cows" had a very low pregnancy rate.
- The "Cured Cows", mainly treated for cysts, have reached the same high pregnancy rate as cows classified as "AI-Ready".
- By using an AI bull as a sire, you will increase the profit and maintain a high genetic progress in the herd.

One small step for you, One giant leap for your cows

You can breed for better hoof health
– a long term and effort free solution.
Healthy hooves mean healthy cows,
You get it all!

#hoofhealthmatters

VIKINGGENETICS®

www.vikinggenetics.com/hoofhealth

Teamwork,

from the production barn to the laboratory

The focus on excellence and quality is a cornerstone in all VikingGenetics' departments, and Production is not the exception. Harri Mäkivuokko, Head of Production Department, explains that all routines from the barn to the laboratory reflect the dedication to a quality mindset. Not only the best bulls but also the best heifers of Scandinavia are today living at VikingGenetics' stations.

By Verónica Löfgren, VikingGenetics

Harri Mäkivuokko, Head of Production in VikingGenetics

Standard and clear policies are key factors to produce the best semen, and it all starts with taking good care of the animals.

"We treat all animals individually and very, very well. The animals have company of "roommates" of the same age; in the case of both bulls and heifers, before they start production", Mäkivuokko states while describing that there are strict routines to follow regardless who from the staff is attending the barn.

"We really want to keep the animals healthy, so every day we go through all of them and have a visual inspection of each of them", he states while explaining that "the animals we have are worth a lot and it's essential that we keep them healthy and treat them well every day. We also have the regular inspection of veterinarians and the hoof trimmers", Head of Productions adds.

VikingGenetics' approach to handle the bulls in the barn is a combination of experience, efficiency and innovation. "We have a very solid collaboration with our Research and Development (R&D) Department, and we try to find tools we can utilize as easily as possible to have more efficient production. We are very careful with the feeding, the handling, and medication of our bulls", Mäkivuokko mentions. He adds that the laboratory is always working with the latest equipment, looking to an efficient production and collecting the right doses to provide our customers with the doses they want.

Quality in focus

In the beginning of October 2016, VikingGenetics again started to export VikingJersey to the United States; and in January 2017 opened a subsidiary company in the United Kingdom. To preserve the quality of the doses, while responding to an increasing demand, it has been a well-accomplished challenge in the Production Department.

"We have an efficient production plan tool to respond better and fulfill all the requirements for export and home markets", Harri Mäkivuokko, concludes. ●

A decade of success with sexed semen

Without any doubt, sexed semen revolutionized cattle breeding and modern herd management. The possibility of active sex determination for newborn calves is appealing for many farmers from both economical and practical reasons. The sorting method utilizes an electric field to separate charged X- and Y-semen cells and have been further developed, automatized and optimized for cattle.

By Kasia Kupisiewicz, Research & Development, VikingGenetics

In 2007, sexed semen started to be produced and commercially available from VikingGenetics.

In 2006, VikingGenetics (at that time Dansire) bought and installed the first two sorters and produced the first doses for internal trial. The trial was a success and, in 2007, the first heifer calves were born and so were the first commercially produced X-Vik doses.

In the beginning, production took place eight hours three days per week, but soon it became evident that it was not enough to cover the increasing demand. Therefore, in 2007, VikingGenetics bought four additional machines, operated by eight employees working 24 hours five days a week.

Nowadays, there are 11 sorters operated by 20 employees producing doses 24 hours 5 days a week. In 2010, VikingGenetics introduced a new type of product, Y-Vik, a dose containing semen for breeding bull calves, mostly used for beef semen.

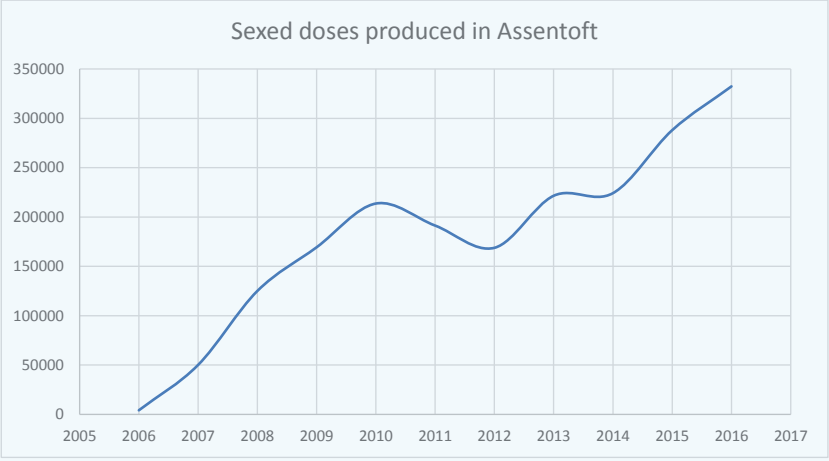
Better Fertility

VikingGenetics is always keeping up with new technologies and tendencies. In 2014, VikingGenetics totally changed procedures and reagents. These new procedures called SexedULTRA minimalized a fertility gap between sexed and conventional semen. In October 2015, a sorter of the newest type was installed in VikingGenetics with several improvements to better utilize semen collected from young, genomic bulls.

Focus on excellence: VikingGenetics has a professional team that produces X-Vik and Y-Vik doses 24 hours, five days a week.

Two million doses produced so far

The status for sexed semen is promising. The dose number 2,000,000 was produced in Assentoft in January 2017. The yearly production exceeds 300,000 doses while the demand is growing not only domestically in Scandinavia, but also in many countries worldwide. ●



VikRank already gaining followers

VikingGenetics launched VikRank in 2016, and it has already become a favorite tool among farmers with a passion for breeding.

VikingGenetics created VikRank to make the selection of bulls that match the goals in your herd easier. In one of the most progressive farms in Spain, ruled by two young brothers, their father and grandfather, VikRank has become important.

"It has worked very well for me; it is easy to understand and manage. I like that I, myself, can set the elements I want to achieve in my herd", Cristian Perat states.

The tool is suitable to use from different devices such as tablets, PC, and smartphones, and is designed to help farmers around the world to find the sires according to their needs and wishes.

"Farmers have different breeding goals on their farms. With VikRank, you can, in an easy way, find the right bulls suitable for your farm conditions. VikingGenetics is always working on breeding the most profitable cows for farmers and VikRank is the new tool to help select the right bulls for their herd", Jan Andresen, Export Manager and Project Manager, VikRank says. ●

VikRank in short

- There are seven categories of bulls in VikRank and they are all on the top Nordic Total Merit (NTM).
- You can also use the "CustomVik" bottom where you can select more weight on a particular trait.

Find the VikRank tool on our web: rank.vikinggenetics.com.

CHEESEVIK
Suitable for cheese production

FERTIVIK
Female fertility - Hoof health

GRAZEVIK
For grazing system – Female fertility – Calving – Hoof health

HEALTHVIK
Healthy cows – Mastitis resistance – General health – Hoof health

ROBOVIK
Suitable for robots – Mastitis resistance – Hoof health

YIELDVIK
High milk production – Mastitis resistance – Udder conformation

EFFICIENCYVIK
Efficient milk production

Find your top cow **with genomic test**

Large-scale genomic testing is a useful management tool in the herd. The idea is to improve the selection of the females used to breed the next generation of heifer calves due to more reliable breeding values. Combined with intensive use of sexed semen and beef semen, the results show increased profit.

The keyword in using genomic tests of females as a management tool is to increase the genetic level in the herd by selecting the genetically superior females as dams of the next generation of heifer calves.

Without genomic breeding values, this selection is done based only on pedigree indices, meaning lower reliabilities and, sometimes, wrong decisions taken. Information from genomic tests will increase the accuracy of the breeding values of the females. This enables a more precise selection of the best females.

A good start to increase the economic benefit of a large scale genomic testing is to intensify the use of sexed semen on the top females and beef semen on the lower end. In this situation, only the top females are used as parents. ●

Torre Santamaría - with genetic progress in sight

VikingGenetics' Show Window Herd in Spain

Torre Santamaría in Lleida, Spain is owned by the Baptista familiy. The farm has around 1,800 cows with 100% use of VikingGenetics.

Torre Santamaria in numbers:

1,600 VikingHolstein cows

36 employees

11,800 kg

Fat: 3.5%

Protein: 3.5%

By Verónica Lófgren, VikingGenetics

Passion for breeding and dedication for genetic improvement with focus on health has made the farm Torre Santamaría a leader in the dairy industry in Spain. The farm, which uses 100% genetics from VikingGenetics, considers that its herd is free from health problems.

The Baptista family is the owner of Torre Santamaría, and is under the management of Joao Baptista, 32 years old, that the farm has become one of the most profitable and sustainable dairy businesses in Spain. The farm is located in Lleida, 150 km from Barcelona in Catalonia.

Once Joao took over the dairy family business, he had the goal to breed for healthy cows. By that time, they wanted to buy heifers and he bought 200 VikingHolsteins from Denmark. By the second lactation, the VikingHolsteins started to produce more and in a more stable way. With its health and production going on, they left the North American cows' performance behind.

> » The cows were looking really good. Average size cows with fantastic feet and legs and goof funtionality «
>
> Peter Weinkouff Pedersen, Breeding advisor, VikingDenmark.

A herd full of healthy cows

Baptista and his team decided to inseminate the cows only with VikingGenetics. "I have 1600 cows and just 13 of them are sick now. I think it's very good! When we had 900 cows, we had 20 at the hospital, so we have been able to improve the cow health; even though the number of cows has increased", he states.

At Torre Santamaría, there is more than 18 square meters per cow in cool bed system, meaning enough space to get more comfort. As in all farms, one of the goals here is to get the cows pregnant, "the milk is a consequence we can expect from the good reproduction rates", Baptista says.

Functionality, fertility and milking speed are three of the traits he looks for when selecting the next generation of cows. The strategy has given results. "It was very easy to see that Torre Santamaría is a very nice farm. They have very good productions figures and extremely high management on all levels. They trust the Nordic system and philosophy, and they can see the benefit of selecting the bulls on NTM to get high pay-off", Peter Weinkouff Pedersen, breeding advisor from VikingDanmark states after a visit to Torre Santamaría, in January.

The numbers behind the performance of the cows confirm their success. The farm has a production average of 11,800 kg per present cow, which is higher than the average in Spain, 9,200 kg per cow, according to local authorities' data.

The invisible cow

Things go so well in Torre Santamaría that Joao Baptista jokes saying he is "starting to run out of ideas". Of course, the concept of the "invisible cow" that doesn't take too much time from the manager, is a dream come true here. That time is instead, according to Joao Baptista "going back to the cows" by planning the breeding goals.

"Every day is the same, meaning that you can create routines. You will not have high nor low points, and this gives you the opportunity to turn to management activities", he states. The farm plans to increase the number of cows from 1600 to 2000 during 2017.

VikingGenetics sharing breeding advice with Spanish farmers

By Verónica Löfgren, VikingGenetics

Cristian and Héctor Perat from Agropecuaria Perat listen to the presentation of Viking-Denmark breeding advisor Peter Weinkouff Pedersen, accompanied by Sabina Olives from VikingGenetics' distributor in Spain, Global Genetics, and VikingGenetics' Export Manager, Suvi Johansson.

Spain in "cow numbers"

Total number of dairy cows: approx. 600,000

Cows in milk recording: 349,395

Average production of milk-recorded cows in 305 d (incl. all lactations): 9,874 kg

Fat: 3.59%

Protein: 3.19%

Bestselling Viking bulls until now: VH Clark, VH Bynke, VH Plato, VH Omega, VH Highway, VH Fiery.

Six farms in Catalonia were the target of VikingGenetics' breeding advice, last January. The goal was that dairymen in Spain had the opportunity to start a dialogue about what to improve in their herds, how, and why, based on the experience from the Nordic countries - although in a tailor made design. Both small and large farms were taken into account for this activity.

As a part of the close relationship VikingGenetics has with its customers, the Export Manager for Spain, Suvi Johansson, organized a visit to six Holstein farms in Spain. The goal was to give them breeding advice regarding the advantages of the Nordic unique health traits.

Peter Weinkouff Pedersen, breeding advisor from VikingDenmark, was in charge of the dialogue with the farmers. He had the opportunity to explain the advantages of VG breeding program, which aims for efficiency, keeping a balance between health and production. He also got a lot of feedback from the dairymen.

"I could see there is great interest of increasing the use of VikingGenetics in the herds. Some of them to improve fertility, some to breed for better hoof health, and there are other plans around", Weinkouff says. "We took this dialogue individually, of course, taking into account the specific conditions and needs. We looked at the herd, the numbers behind and we also listened to what the farmers wish to achieve", he states and adds that the visit was an enriching experience for both parties.

Moreover, Johansson summarizes that, last year, Spain used bulls like VH Clark and VH Cosmos because they can transmit good fertility of daughters, better hoof health and resistance to metabolic diseases and to mastitis. "These are exceptional indexes that no other company can offer" she says.

One of the things the Vía Láctea Farm in Spain most like about VikingGenetics is the Easy Calving Index. Right now, the owners of Vía Láctea are inseminating the cows with VH Bynke and VH Clark.

» I breed cows that can be left home alone. I prefer cows that can calve on their own no matter if the calf comes during the day or night «

Flemming Pedersen

Flemming and Trine Pedersen

- Dairy farmers in Fjerritslev, Denmark
- 380 Danish Red cows
- Production: 11,400 kg ECM
- Four employees
- Danish Red farmer of the Year 2015

The barn houses 380 red cows.

Flemming Pedersen:

”I breed cows that can be left home alone”

Flemming and Trine Pedersen use the NTM (Nordic Total Merit) index as a guide in their breeding. They prefer healthy and productive cows on their farm in Fjerritslev, Denmark.

By Lea Foustad Harbo, VikingDanmark

Flemming and Trine Pedersen live in the childhood home of Trine, and both her father and uncle still stop by to help in the barn. Her uncle Lars just turned 70 years old, he is with us in the kitchen talking about breeding and life; and rumor has it that he knows the pedigree of almost all the 380 cows in the herd.

There have been red cows on this farm for four generations, and this will not change. ”The challenges with the red cows have been the mammary, but this has improved a lot, and in this herd we have healthy and robust cows with good production, and we believe in them”, Flemming explains.

The NTM is their guide in breeding, and in order to maximize the genetic progress, the genetically poorest third of the cows has been inseminated with beef the last few years. In the breeding strategy, Flemming focuses on economy – bottom line is on his mind all the time, and therefore NTM is important in the herd’s breeding work. As a main rule, only the best cows in the herd are inseminated with purebred semen to contribute to the next generation.

Clear strategy

It is also important to Flemming to know the price of raising a heifer. No doubt, this is a high cost, and therefore the strategy is clear; no more than 5-7% heifers in surplus. In this way, it is possible to transfer liquidity. By selling the cross calves early, the money is tied up for a short period of time.

The herd has continuously expanded, and Flemming and Trine have now almost reached the number of cows and females wanted. Therefore, the share of beef breed semen for the cows can be increased. This is a result of very good longevity in the cows and a minimum of loss for the rearing cattle.

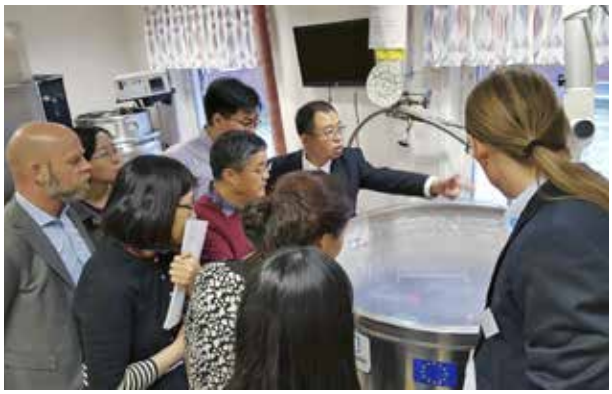
The production economy is no doubt the most important thing in the herd, but Flemming also takes an interest in breeding. He does genomic tests on the animals, and he has had three flush contracts with VikingGenetics, so far.

The herd is healthy and fit. The number of clinical mastitis has dropped significantly after the move to a new barn with sand in the cubicles last spring, and Flemming has not had a visit from a hoof trimmer since 2006. This is now done by himself.

”I breed cows that can be left home alone. I prefer cows that can calve on their own no matter if the calf comes during the day or night”, Flemming says. ●

Flemming and Trine Pedersen with Trine’s uncle Lars, who still helps out in the herd.

Agromek 2016
A group of more than 100 people from about 15 different countries visited Viking-Genetics' headquarters in Denmark in November, during the Expo Agromek 2016.



Chinese government's delegation visited us
A delegation from China's government visited us in our facilities in Sweden. Together with them were also representatives from the Swedish Board of Agriculture. Our breeding and veterinary programs were presented to our visitors. They also had the opportunity to make a tour to the laboratory and the bull barn.

Pictures from our Instagram Community

@enbondetjej finds the winter beautiful but summer with cows is magical. Here is Ursula on the summer field #vikingred #lifeonafarm

Future milk maker from @pietintila #vikingred #breedingforwhattrulymatters

Import to Canada. Eric Chassé in Canada is enriching his Jersey herd with #vikingjersey

VikingGenetics opens a subsidiary

in the United Kingdom

VikingGenetics UK is the second subsidiary operation for VikingGenetics International, with the first being founded in Australia back in 2010.

By Verónica Löfgren, VikingGenetics

Recently VikingGenetics announced the establishment of its subsidiary company: **VikingGenetics UK** in England. The new office is taking over the operations of our former distributor ABA Viking. As from January 2017, the company has been operating in the UK market under the new business concept.

"Dairy farmers in the UK have already seen the benefits of VikingGenetics breeding solutions, so VikingGenetics' expansion decision was the next natural step for us," Sara Wiklert Petersson, Head of Sales at VikingGenetics, states.

The Nordic company has an outstanding position with its three dairy breeds - VikingHolstein, VikingJersey, and VikingRed - in the UK market and VikingGenetics' bulls dominate the Profitable Lifetime Index (£PLI) as its last release in December 2016 shows.

"We have a strong position with our Jersey population, but we are much more than that, and now we want to put more effort in offering the whole VikingGenetics package", Sara Wiklert Petersson explains.

We have an international recognition for being a pioneer in breeding for healthy and profitable cows and wants the dairymen in the UK to take advantage of these "green" cows. VikingGenetics keeps a balance between production and health in its breeding program, helping dairymen maximize the profitability of their business.

VikingGenetics is coming to the British market with particular solutions through its unique traits. For example, Hoof Health is generated from the collection of data made by hoof trimmers in Sweden, Denmark and Finland. Hoof trimmers report for seven different hoof diseases, and Digital Dermatitis is one of them.

VikingGenetics UK is the second subsidiary operation for VikingGenetics International, with the first being founded in Australia back in 2010.

"Digital Dermatitis is a painful disease that not only makes cows suffer, but causes a loss of production, and a negative impact on fertility. The Hoof Health Index is one of the unique traits a farmer can select to reduce incidences of hoof diseases" Head of Sales illustrates.

Furthermore, VikingGenetics' unique Udder Health Index, based on extensive veterinarian registrations of clinical mastitis, gives the dairymen tools to improve Mastitis resistance. Besides, the General Health Index describes the bulls' daughters' ability to resist metabolic, reproductive, and feet and leg diseases.

In addition, VikingGenetics considers the UK market a very high priority to keep expanding ProCROSS, which is the only proven crossbreeding system in the world. By the combination of VikingRed, VikingHolstein and Montbéliarde, the three breeds complement each other very well. ●

Viking bulls in leading positions

- VikingRed is leading the ranking on the Top International Red Bulls on £PLI, with VR Gobel being number one. VikingGenetics has seven out of the top 10 Ayrshire bulls on this classification.
- The Jersey bulls also have an outstanding performance where VJ Tester leads the list of Top UK Proven Jersey Bulls Ranked on £PLI where eight out of 15 bulls are from VikingGenetics.
- Besides, VJ Hickey is number one on the Top International Jersey Bulls Ranked on £PLI and eight of the first 10 bulls are from VikingGenetics.

Adelgaard Jerseys announced Master Breeder

By Peter Larsson, Breed coordinator VikingJersey

At the Annual General Danish Jersey Meeting, Adelgaard Jersey and Vagn Lindy Petersen were appointed as Master Breeder 2016.

The current top bull, VJ Adelgaard Hihl Hiwe is one of the results of the constant focus and success the herd has.

Since 2002 the herd has bred 52 bulls for VikingGenetics/Dansire. No other breeder is near this figure.

VJ Hiwe is the first bull to rank #1 in the breed, but lots of others have played major roles in the VikingJersey breeding program, such as DJ Bindy, DJ Imdix, VJ Magnum, VJ Hickey, VJ Hjern, VJ Jern and VJ Hilton.

The Adelgaard Jerseys herd has used Embryo Transfer (ET) over many years, exporting embryos to many countries, and several donors have more than 25 offspring in the herd. The Adelgaard Jerseys herd is also known for high lifetime production. Three cows in the herd have celebrated more than 10,000 kg fat and protein lifetime production.

VJ Quintana

VJ Rodme x DJ Zuma x DJ Prima

Outcross, exceptional breeding profile

VJ Quintana

VJ Quintana is out of “”Krogaard Zuma Zophia”, bred in the Krogaard Jersey herd in Denmark. A number of very good bulls are bred in this herd, such as OJY Mikkel, FYN Nis, SKAE Krig, DJ Lucus and VJ Primus (last two in the Quintana family).

The sire of VJ Quintana is famous VJ Rodme, well-known as a type and udder improver. The dam of VJ Quintana, Krogaard Zuma Zophia, has also contributed to the exceptional breeding profile of the bull. She is an extreme producer. Yearly average is 11,240 kg milk with 5.70% fat and 4.17% protein. He is named after the famous bike rider Nairo Quintana, who won the Vuelta a España 2016.

VJ Quintana breeds high production of fat and protein, with high percentages. He is a fertility, udder health and longevity improver. Daughters are expected to be tall, with a very good type (show type). Udders will be extremely shallow, high and wide rear udders with strong ligament. VJ Quintana will work very well in combination with pedigrees from US, Canada and NZ.

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

VJ James

VJ Jern x VJ Zolt x DJ Hulk

New combination = excellent Health & Fertility

Dam of VJ James

VJ James is out of ”Hoeholt Zolt Zoe”, bred in the Hoeholt Jersey herd in Denmark.

The herd has bred a number of excellent bulls for the VikingJersey program over the last years. Just to mention a few: VJ Messi, VJ Hjorri and VJ Luluk. The sire of VJ James is VJ Jern, a DJ Jason son out of a Q Hirse daughter. Maternal GS, VJ Zolt is a DJ Zuma out of a Q Hirse.

The dam of VJ James, Hoeholt Zolt Zoe, VG89, has just ended first lactation, with 6.12% fat and 4.37% protein. Grand dam was even higher, with 6.48% fat and 4.77% protein. VJ James is an improver of components and solids.

VJ James will breed fertile, healthy and long-living daughters. Daughters will be tall and dairy, with good legs, high attached rear udders and shallow udders. VJ James is a good “all-round bull” who will work very well in nearly all combinations without DJ Hulk in the pedigree.

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

Sires in focus

VJ Willem

VJ Hjort x DJ Jason x DJ May

Champion of fat and protein

VJ Willem

VJ Willem is out of "Nyagergaard Jason Janine", bred in the Nyagergaard Jersey herd in Denmark.

The sire of VJ Willem is VJ Hjort, a VJ Husky son out of a DJ Zuma daughter. The dam of VJ Willem, Nyagergaard Jason Janine, has now ended three lactations, with an average of nearly 9,000 kg milk, with 5.93% fat and 4.12% protein. Janine is scored VG89. VJ Willem is an extreme improver of fat and protein percentages. Willem also breeds good fertility, udder health and longevity.

Daughters are expected to be tall with good body capacity, good legs and with excellent udders.

VJ Willem will work very well in combination with pedigrees from US and Canada if you are looking for higher percentages and none of the top bulls are present in his pedigree.

Beta Casein: A2/A2 Cappa Casein: BB JH1: Free αAa:

VJ Mojn

VJ Hoj x DJ Jason x DJ Lirsk

Bull with easy-to manage daughters

VJ Mojn

VJ Mojn is out of "Aller Jason Louise", bred in the Aller Jersey herd in Denmark. The sire of VJ Mojn is the first VJ Hoj son to be marketed. VJ Hoj is VJ Hjern x DJ Zuma. VJ Mojn is without DJ Hulk genes and he will be outcross to most pedigrees.

The dam of VJ Mojn has just ended her second lactation. Average of the two lactations is 8,100 kg milk with 6.04% fat and 4.27% protein. The cow family is dominated by very long-living cows. Four out of the first six dams in the pedigree has milked more than 11 lactations. The Aller Jersey herd is well-known for long-living cows with extremely high lifetime production.

VJ Mojn will improve fertility, udder health, longevity along with milking speed and temperament. VJ Mojn daughters will be very easy to manage. VJ Mojn will work very well in combination with pedigrees from all over, where you need stronger, healthier and more fertile cows. Cows you like to work with, look at and show.

Beta Casein: A1/A2 Cappa Casein: BB JH1: Free αAa:

VJ Messi

Leonel x VJ Hjern x DJ Hulk

A cross with the best

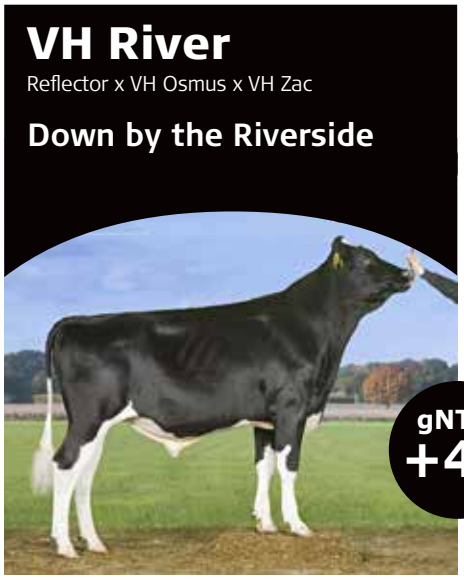
Dam of VJ Messi

VJ Messi is out of "Hoeholt Hjern Hjoerri", bred in the Hoeholt Jersey herd in Denmark. The herd has bred a number of excellent bulls for the VikingJersey program over the last years. Just to mention a few: VJ James, VJ Hjorri and VJ Luluk.

The sire of VJ Messi is the American bull Faria Brothers Leonel-ET. Maternal Grand Sire, VJ Hjern, is a Q Hirse out of a Q Handix. The dam of VJ Messi, Hoeholt Hjern Hjoerri, has just ended her first lactation with sky-high components: 7.38% fat and 4.83% protein. Also the maternal grand was at an exceptional level, with 6,75% and 4.64%.

VJ Messi will breed high production of solids, long-living and healthy cows. Daughters will be tall and with exceptionally good rear udders. VJ Messi is an ideal cross with US and Danish Jersey genetics. He will work well in combination with all pedigrees except from those with Leonel and DJ Hulk genes.

Beta Casein: A1/A2 Cappa Casein: BB JH1: Free αAa:



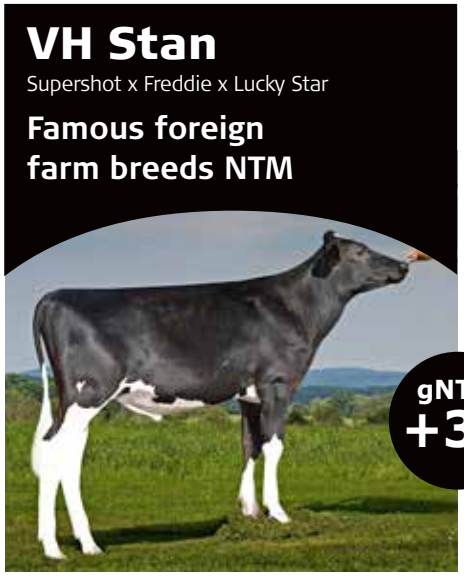
VH River

The new topbull from VikingGenetics. Full brother to VH Rozwell that was released some months back.

VH River is bred at Morten Hansen in the northern part of Denmark. His sire – Reflector is an American Mogul x Superstition son and in the dam line we find a daughter of the famous VH Osmus that today has +17 in NTM, so among the very best cows in the population. Her dam is an EX91 VH Zac daughter that in 3.7 years has a yearly average of 12,000 kg milk with impressive 4.83% fat and 3.76% protein.

It is worth taking an extra look at VH River's profile. The health and reproduction indices are all superior, fast milkers with good components and average sized animals with good feet & legs and nothing less than 140 in udders.

aAa: *Cappa Casein:* *Beta Casein*



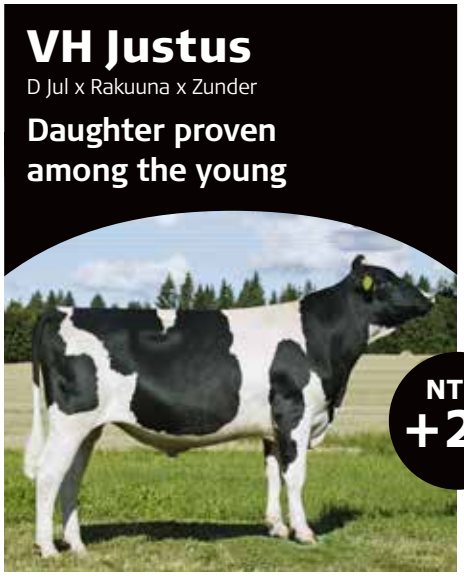
VH Stan

VikingGenetics' focus on selection also outside the VikingGenetics area pays off. One good example of this is VH Stan, bred at Stantons. farm in Canada.

It is no coincidence, but it is exactly this cow family that makes a good NTM bull for VikingGenetics. The Freddie (Stantons Freddie Cameo) has already had two sons on the sires of sons list being the Predestine son Checkers and the Epic son Casual. Her dam is Stantons Lucky Cameo and her dam Sher-Est Mtoto Sharon. It is actually an old sire line that really underlines the power behind the cow family.

VH Stan is one of the best production bulls with 122 in production index. In reproduction it is especially the calving ease that catches attention with 116. Also fertility and health are clearly positive.

aAa: 231465 *Cappa Casein:* *Beta Casein*



VH Justus

Today, VH Justus has 200 daughters in his production index and 66 classified daughters – they are the background for the +26 in NTM.

He originates from a very nice family in the herd of Jukka and Anneli Kettunen in Finland. The Rakuuna dam is definitely one of a kind. She has an average production of 12,400 kg milk with 4.76% fat and 3.57% protein. Sire line further back is Jackpot and Uutinen. Definitely not a sire line you will find anywhere in the world – and now with daughter proofs.

VH Justus gives a really high production level – 124 with components in top. Still health is positive and reproduction around average. Calm cows that are fast milkers and with good health.

aAa: 513462 *Cappa Casein: AB* *Beta Casein A2/A2*

VH Bundis

VH Borst x VH Opell x Rakuuna

Unique VikingGenetics sire line

NEW

gNTM +31

VH Bundis is bred at the farm of Norbjärens AB in Sweden. In VH Bundis you will find some of the very best VikingGenetics bulls.

The sire VH Borst is a VH Bynke (VH Bismark) son, VH Opell is a D Onside son and then good old Rakuuna – this is definitely a signal of trust and power with so many fantastic bulls behind.

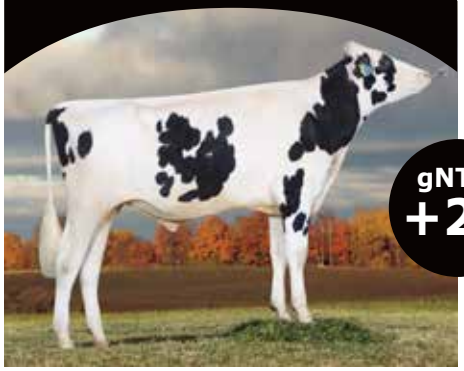
VH Bundis has the modern breeding pattern with high components in the milk and a really good fertility. Health is what makes this bull extra special – udder health 114, general health 111 and hoof health 122. VH Bundis makes smaller cows than average with good feet & legs and with udders at 119.

aAa: *Cappa Casein:* *Beta Casein*

VH Glass

VH Gant x VH Pop x S Ross

Recognize an outstanding sire



gNTM +29

VH Glass

The breeder is Berte Gård AB from Slöinge in Sweden and you will also find some of the well-known Swedish bulls like S Ross in the pedigree.

The sire to VH Glass is VH Gant (VH Gejser x D Limbo) and the dam is a VH Pop (Planet) that is a strong production cow with more than 11,500 kg milk and 3.88% fat and 3.61% protein. The S Ross cow has an average of more than 13,500 kg milk.

You will recognize the high production also in VH Glass with an index of 122. He is the same time really strong in the health traits especially udder health.

aAa: *Cappa Casein:* *Beta Casein*

VH Karlo

Kooper x Saleen x Altaiota

A perfect international exchange

gNTM +28

VH Karlo

International exchange of genetics is nothing new - especially in the Holstein breed, but you seldomly find something as good as this bull - VH Karlo.

He is a bull born in Germany – a Kooper son (Mixer) from a Saleen dam (Domain). None of these sires or grand sires are found in any other bulls from VikingGenetics. The Saleen dam is an embryo from DE-SU 788 (Altaiota) in US and her dam – Montana Planet is from Sully Shottle May, who is the dam of the well-known Bookem son McCutcheon.

VH Karlo is a really good production bull with 124 in production index and 122 in protein index. Despite of the high production, he is able to get 109 in udder health and is better than average in all health traits. The female fertility is average – a natural thing with such a high production. Calving traits are good - especially the maternal calving at 109. Mammary are really well-attached with a good ligament and perfect teat placement.

aAa: 234156 *Cappa Casein:* *Beta Casein*

VR Vagner

VR Vilde x VR Cigar x R Fastrup

Coming from a strong family

VR Vagner

VR Vagner comes from Højtofte v/Vagn Rasmussen, Denmark, from a cow family that has a high production and good type.

The dam has produced 11,847 kg milk, 4.1% fat and 3.6% protein in 356 days. Her total score is 89. The grand dam has in average 11,118 kg milk with 3.9% fat and 3.4% protein.

VR Vagner being a half-brother to VR Sony, is a sire with top production and great udder health. He also inherits tall and strong daughters with good udder conformation.

aAa 432 *Cappa Casein AB* *Beta Casein A2A2*

VR Edison

VR Erkki x VR Fergus x VR Cigar

An excellent dam behind

VR Edison

The breeder of VR Edison is Morten Hansen, Denmark. He bought the great grand dam as an embryo from Viken in Sweden.

The dam of this sire is a super VR Fergus cow classified 89-86-90-89 and has in 260 days produced 10,099 kg milk with 4.3% fat and 3,8% protein. She is also dam to VR Passat and VikingGenetics has bought one of her heifers to be flushed in the VR flushing scheme. Furthermore, there are three other heifers with flush contracts to be flushed at home. The grand dam is the dam of VR Frank and has two daughters on a flush contracts with VikingGenetics. She has an average of 4.5% fat and 3.7% protein with a production of 12,685 kg milk and her total score is 87.

VR Edison has nice production positive fertility figures at the same time. He gives average size with great feet and legs combined with excellent hoof heath.

aAa *Cappa Casein BE* *Beta Casein A2A2*

VR Sanero

VR Sarek x VR Fergus x A Linné

A different sire line

VR Sanero

VR Sanero comes from Virpi and Timo Kaarakainen, Finland. The dam has so far calved twice with calving interval less than 11 months.

She has a good classification and excellent health profile. The MGGD has been a great producer with her best lactation almost 12,000 kg milk with 4.0% fat and 3.6% protein.

VR Sanero is out of a specific sire line: his sire VR Sarek is one of the two sons of the Swedish bull Sörby. Sanero gives us easy calvings and excellent female fertility. Pay also attention to the optimal size and top feet and leg quality.

aAa *Cappa Casein AB* *Beta Casein A2A2*

Sires in focus

VR Viper

VR Vilde x Á Linne x Huseby

An example of high components

VR Viper

Joakim Fjägers, Sweden, is the breeder of VR Viper. The dam has production average of 9,805 kg milk with high components; 4.9% fat and 4.0% protein that means 11,310 kg ECM (Energy Corrected Milk).

The maternal grand dam, 633 böna sired by Huseby, was a productive cow with almost 9,500 kg during 4 years and 8 months, 10,552 kg ECM. She had six calves on five lactations and her dam, 594 Böna, sired by the famous B Jurist, had the same, six calves and five lactations, with a production average of 9,550 kg milk, 4.4% fat and 3.6% protein, 10,130 kg ECM.

VR Viper breeds great udder health combined with nice production and easy calvings.

aAa *Cappa Casein AA* *Beta Casein A1A2*

VR Pasuuna

VR Porter x R Facet x Record

Half-brother of VR Faabeli available now

VR Pasuuna

VR Pasuuna comes from Arto and Eija Hinkula, Finland. He originates from the same farm as VR Faabeli and has the same cow as grand dam.

The dam has two calvings so far and total yield of 21,074 kg milk with 4.5% fat and 3.7% protein. She also has really low cellcount.

The same pattern can be seen in all generations behind the dam: high yield and longevity.

The strengths of VR Pasuuna are good components, positive fertility, udder health and udder conformation.

aAa *Cappa Casein AA* *Beta Casein A2A2*

VR Hammer

R Haslev x G Edbo x Peterslund

A real easy calving sire

VR Hammer

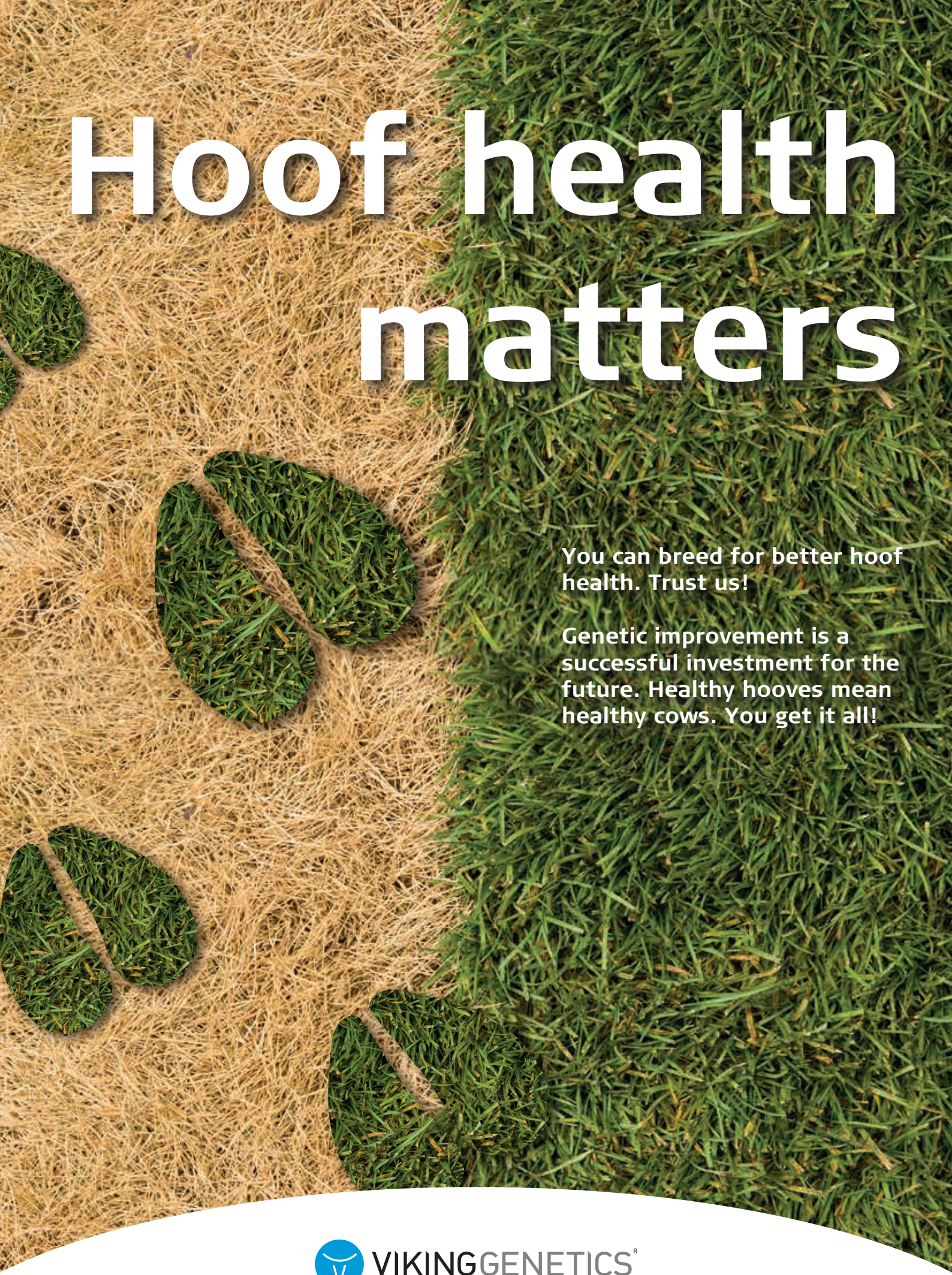
The breeders of VR Hammer are Anna-Karin and Joakim Aaby Ericsson, Sweden. This sire has been one of the first top genomic sires that was moved to Denmark to produce X-Vik semen.

His dam has one lactation with 9,000 kg milk, 4.3% fat and 3.8% protein. The MGD's best lactation is almost 13,000 kg milk with 1,037 kg solids, 4.5% fat and 3.6% protein.

VR Hammer is progeny tested with almost 900 daughters in his proofs. He has good components, He is a real easy calving sire having all indices related to calving or birth on excellent level. Also all health indexes are positive. The daughters are smaller than average with perfect set of legs and with super bone quality.

aAa 342 *Cappa Casein AB* *Beta Casein A1A2*

Hoof health matters



You can breed for better hoof health. Trust us!

Genetic improvement is a successful investment for the future. Healthy hooves mean healthy cows. You get it all!

VIKINGGENETICS®

Breeding for what truly matters