

20 YEARS WITH VIKING GENES IN SOUTH AFRICA

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By sales manager Sara Wiklert Petersson

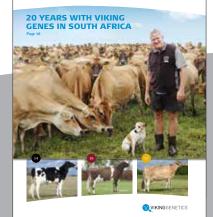
Turbo charged, profitable Viking cows

VikingGenetics is well-known for breeding profitable cows that are high-producing, fertile and stay healthy. The genomic era hasn't changed our clearly defined goal. The only difference is the progress we make. Today the gain for NTM is as high as four units per year, and especially the genetic gain for health traits are significantly higher. The past five years VikingRed have obtained a remarkable progress for udder health of 1.4 units per year.

It's a challenge to make high progress for both production and health traits. You need an advanced total index based on reliable data. NTM is such an index. With genomics the Viking goal is turbo charged. Our possibility for fast progress is now even more enhanced with our increased focus on females. The new breeding program will produce even better sires that will ensure dairy farmers all over the world a profitable cow - a cow that produces high volume solids, breeds back and stays healthy.

In this issue of VikingNews you can read about farms in different corners of the world, Jersey in The Netherlands and South Africa, VikingReds in Sweden, Holsteins in Denmark and Australia – all with the thing in common that they have Viking profitable cows.

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LAYOUT AND PRODUCTION: vahle* nikolaisen.

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

COVER PHOTO: Kassie Kasselman, Joenkershoek Farm, South Africa manages a herd of 1300 VikingJersey cows. Photo Poul Bech Sørensen.











The good life with family and cows Erik and Henrik Bligaard, Denmark, opened a new barn for 320 cows last year. The goal is welfare for both family and cows. PAGE 4

Competition ensures high production Despite hard times Elin and Patrik Johansson have a positive view to their milk production. They are competitive, and this affects the employees in a positive way. All heifer calves are tested genomically – and the sire VH Mace was bred in the herd. **PAGE 8** 20 years with Viking genes in South Africa VikingJersey has gained wide popularity in South Africa over the past 20 years. The VikingJersey cows easily adapt to various conditions from pasture systems to semi desert farming with extremely hot summers. Now follow VikingHolstein and VikingRed. PAGE 18

New and interesting projects in China

In China ad hoc advising in feed planning, feed analysis, health, reproduction and breeding has high priority. Therefore VikingGenetics is in the process of establishing an advising package that will attract large Chinese state-owned farms and create interest in the Viking breeding profile. PAGE 21

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The good life with family and cows

By Poul Bech Sørensen

Erik and Henrik Bligaard, Denmark, opened a new barn for 320 cows last year. The goal is welfare for both family and cows.

The Bligaard family estate contributes to the Danish cultural landscape with its new barns made in red bricks beautifully placed in the hilly countryside in the north west part of Jutland. When planning the building logistics, function and architecture was kept in mind and this should serve as inspiration for many. "We had even more projects planned", Henrik (30) starts. "However none of them cold be approved by the financing institutions, and our patience was tested. But the final project suddenly

moved fast, and the building went completely as planned", Henrik and Erik smile.

Top cow welfare

The new barn is made with maximum cow welfare in mind. Lots of light and space, large walking areas and of course sand in cubicles. Floor slots with scraper in the below channel, and the sand ends up in the manure tank with no problem. The slots are cleaned by two DeLaval robots and this is important as regards the hygiene. "We had many considerations about the milking system but we chose a separate center with a 2x20 DeLaval side-by-side milking barn. The current app. 300 cows are divided in two groups in each side of the barn. In addition we have a separate section with room for app. 20 first lactation cows for the first 2-3 months after calving. At first this section was planned for the dry cows, but now with the open quota in EU, we can speed up production and at the same time give the first calvers a better start with 1 kg grain



Jane, Henrik, Erik and Rasmus infront of the new barn, milking centre and calf barn.

"We have an excellent cooperation with our AI Technicians, They are very good at following up and keeping focus".

HENRIK & ERIK BLIGÅRD

and 0.5 kg soya meal added to their TMR mix – and spare them the competition from the older cows.

High-yielding cows are milked three times

The high-yielding group of app. 150 cows is milked three times a day and the other group two times. "We typically move them from group one to group two about 26 weeks after calving, but we also take their production into consideration. Our very competent herd manager Brian is responsible for registration, health and examinations. And then Brian also milks the cows and nurses the calves in the morning. His working day starts at 3.30 a.m. and ends at noon", Henrik explains. The two other milking sessions are handled by two conscientious Romanian girls. They also clean cup drinkers, milking area, milking barn and other facilities.

Henrik mixes feed, nurses the heifers in the old free-stall barn from 1998, the dry cows in another estate and nurses the calves in the afternoon. Henrik's father Erik (63) works in the fields and helps in the barn when necessary.

Reproduction under control - manually

The efficiency of 0.29 for the cows and 0.34 for the heifers show that the reproduction is among top 10% of the herds in Denmark – without any modern observation systems like Heatime. "The cows in general show clear heat, and the group division makes it possible to focus 100% on the cows to be inseminated. We want to emphasize our fine cooperation with our AI Technicians", Henrik and Erik agree. "They are good in followingup and keep focus – even if the reproduction results are not optimal for a period of time". Ordering Viking's AI techni-



There is plenty of light and space in the new barn with room for 320 cows.



The dam of VH Jamie (VH Jewel x VH Mugsy x V Exces) feels well in the new barn with sand in the cubicals.

cian is made online – a solution that Henrik and Erik are very satisfied with.

"Every Tuesday the AI Technician from Viking examines all cows from 37 days after insemination. In this way we will find the cows that are not pregnant at an early stage", Henrik stresses. Insemination starts at 60-65 days after calving, and if they do not show heat after 70 days, the AI Technician will examine them to find out if they cycle. This is well-planned with the vet visiting every second Wednesday.

Heifers for insemination are divided into groups so that the app. 20 heif"We like to get away from the herd once in a while and spend time together with our son Rasmus who is three years old. We rent a summer cottage, de-stress and enjoy the company".

JANE & HENRIK BLIGÅRD

ers to observe will be in the same group. Insemination starts at the age of 12-13 months, and the average preg-

"I am very open to try something new – this is genomic test of the best animals and maybe also ET if we get a candidate with high index."

HENRIK BLIGÅRD

nancy age is 13.7 months giving a calving age of app. 23 months. All heat observation for the heifers is done manually with observation of blood, slime and jump.

Combines use of X-Vik and beef breed

The breeding plan is made by the Viking breeding advisor and is basically beef breed semen for app. 40% of the cows and X-Vik for 70% of the heifers for first insemination. The mating plan is updated every second week so that the mating suggestions at all times are updated as regards insemination number. "The breeding advisor is amazing when it comes to following-up, advising on selection of bull and we often talk together", Henrik explains. "I am very open to try something new – this is genomic test of the best animals and maybe also ET if we get a candidate with high index.

When we reach our goal with the strategy of reduced young stock – and if the price of the test is also reduced – we will definitely consider genomic test of all heifer calves. In this way we can focus on the genetically best females, increase genetic progress and at the same time increase the chance of selling a bull to VikingGenetics", Henrik says. VH Jamie (VH Jewel) with NTM +23 is bred by Bligaard – and the dam (VH Mugsy x V Excess) has adjusted very well in her new barn.

The goal is good time for the family

The most important for the Bligaard family is a good life with time to spend together on more than just farming. "Both my wife Jane and I like to get away from the herd once in a while and spend time together with our son Rasmus who is three years old. We rent a summer cottage, de-stress and enjoy the company", Henrik says and

Facts

- 300 Holstein cows
- 11,500 kg ECM
- 230 ha with maize, grass and grain
- Barn from 2014
- 2 x 20 DeLaval side-by-side milking barn
- Reproduction efficiency: Cows 0.29 - Heifers 0.34
- X-Vik for 70% of the heifers
- Beef breed semen for 40% of the cows

smiles at Jane and Rasmus. "Our goal is 360 cows and then optimize, trim and nurse them in the most optimal way to produce 12,500 kg in good health and reproduction. That is both financial and life quality", Henrik and Erik finish up.



Viking Academy 2015

In May the third two-day VikingAcademy was held in Sweden with 26 participants from 17 different countries. Main subject at the international academy was genomic selection.

enneth Byskov and Lars Nielsen from the breeding department explained how the breeding scheme is changed to suit the new genomic tools. All participants were aware of the challenge with selling a better product with less reliability and had a workshop about this issue.

Hossein Jorjani from Interbull was invited to explain why ranking of sires differs from country to country. There was also a session from the marketing department about how to be visible on social media. Afterwards there were farm visits in Sweden and Denmark with functional and healthy Viking cows and well-managed herds as well a visit to the bull station in Assentoft.

High NTM bulls for best bottom line

It was obvious for the visitors that Swedish and Danish farmers believe in NTM and our breeding goal. Also they have adapted well to the new genomic era and understand the importance of using the genomic bulls as a group. For them it is not an issue whether they should use genomic bulls or daughter proven bulls. The most important issue is bottom line, and therefore the answer is using bulls with the highest NTM.

> Group work about genomic selection

Functional VikingHolstein cows at Törlan Lantbruk - the breeder of the sire Törlan





Eva & Roger Arvidsson, Idala gård, in between two of their healthy VikingRed cows. Look at the super feet & legs







Spring i Sweden by Magnus & Eva-Lott Uhlin, Hasslövs Gård. 11.800 kg milk in average of the healthy VikingRed cows



Taste is good of a field lunch at Idaka Gård

The group of distributors attending the 3rd VikingAcademy



Patrik and Elin Johansson, two goal-oriented and proud milk producers.

Competition ensures high production

Despite hard times Elin and Patrik Johansson have a positive view to their milk production. They are competitive, and this affects the employees in a positive way. All heifer calves are tested genomically – and the sire VH Mace was bred in the herd.

E lin and Patrik Johansson, Torps Farm, Sweden, have a strict selection strategy: first calvers that do not produce more than 30 kg milk, will

"The red cows have actually become better since the start of genomic selection"

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PATRIK JOHANSSON

not be inseminated, and cows will have to produce more than 40 kg to stay. "Due to the expansion of the cow number, we have bought many animals, and now we can start a proper selection and replacement strategy", Elin says. In the herd half are Holstein cows and the other half are VikingRed cows. The difference between the two breeds is that the red cows are faster while the Holsteins are a bit more sensitive. On the other hand the Holstein cows milk more. Most cows will be inseminated 40 days after calving, and the result for pregnancies is significantly better than when they waited until 60 days.

All heifer calves are tested genomically

Since 2013 all heifer calves are genomically tested at birth. "If we can sell a bull calf to VikingGenetics, then that cost pays off", Elin and Patrik say. The heifers with the lowest index will be raised for slaughter. "It is fascinating to see how the heifers' indexes correspond with their phenotype!" This is the reason that we will test all heifer calves to really focus on the right animals!" Elin says.

The insemination plan is made four times a year, but now the breeding work is so fast that this is not enough. Our local breeding advisor will thus continuously inform us if there will be new bulls to use for high-index animals. The cows are grouped depending on their index; a breeding group of "It is fascinating to see how the heifers' indexes correspond with their phenotype as cows!" This is the reason that we will test all heifer calves to really focus on the right animals!"

ELIN JOHANSSON

25% of the cows, a good milking group of app. 50% of the cows, and a group to inseminate with beef breed semen or to use as recipients.

Many requests from VikingGenetics

At the moment we have a flush contract for four heifers, and the flushings will take place during the spring for 1707 (VR Solero) gNTM +24 and 1842 (VH Everest) gNTM +28. There are also contracts for two heifers; 1899 (VH Ronaldo) gNTM +30 and 1903 (VH Everest) gNTM +29. "This is a confirmation that you do well when the request comes from VikingGenetics. I always run to the mail box on Fridays – that is usually the day the letters from VikingGenetics arrive", Elin laughs.

Two ET bull calves await genomic result; 3438 (Fageno) and 3443 (VH Reynold). The dam 1490 Inga (VH Op) was flushed in contract, gave five embryos

> Elin & Patrik Johansson run the Torps farm in Sweden with more than 400 cows. Patrik took over the farm by his parents in 2002 with 90 cows in a tie-stall barn and in 2010 they built the new barn.

and two bull calves. Now they hope for high genomic proofs for both bull calves! The bull VH Mace (D Mason) with gNTM +26 is from this herd. He was on the list of recommended sires earlier and at the moment he produces for China.

Heifers in heifer hotel

The heifers will be moved to a heifer hotel when they are 12-13 months old and they will return home as soon as they are pregnant to get used to the robot. "The heifer hotel is a good solution. Then we can focus on the milk production", Elin says. They always have app. 80 heifers in the heifer hotel during a year.

Sweden's highest producing cow

Important traits are milkability, feet & legs and udder. Today there is no major difference of conformation for the red and the black cows. "The red cows have actually become better since the start of genomic selection", Patrik says. At present most cows are culled because of low return.

The cows in the robot herd are in two groups with 150 cows in each group. In the barn is cow no. 2627 Inga, fifth lactation cow by V Excess producing 20,800 kg milk in last milk recording year, and was the highest producing cow in all of Sweden.

Advantage with good staff

Both Patrik and Elin are competitive and have many plans and this affects the staff in a positive way. They all focus on the result and motivate each other. A constant search for improvement. In the herd are many routines. E.g. animals are always moved on Tuesdays, and it will be on that day it is planned for so that the staff knows what to do – even if they had a couple

Facts

- Owners: Elin & Patrik Johansson
- 400 cows, 50% Holstein, 50% SRB
- 7 employees
- 600 ha, incl. field work
- 11,400 kg ECM, the goal is 11,500 kg for 2015.
- 4 DeLaval robots
- Calving age: 25 months
- Calving interval: 11.7 months

of days off. At the Torp farm they consider to join the trends and buy embryos from other highly tested heifers in the VikingGenetics area.

Show room for DeLaval

With large and fine facilities on top of the newly built barn, it is a perfect show room for DeLaval, and they have many visitors from e.g. China. "Showing the farm and talking about our production spices up life. And having the many visitors makes us realize the Swedish welfare. In addition we learn English." Elin says.



1088 (D Onside x D Banker) dam of VH Mace. A high-producing cow that has calved three times. Last year she milked 13,423 kg ECM.



News about VikingRed

Heifers at new ET station Örnsro

The first heifers to the ET-station at Örnsro in Skara in Sweden arrived in April. The aim is to start the flushing activities of these highly selected females in the beginning of the summer. All heifers are selected after superior

All heifers in the ET station in Örnsro in Skara in Sweden have been selected based on high genomic test – and are among the very best animals in their progeny groups.



genomic tests and they all belong to the very best animals within their daughter group. The next group of heifers will arrive in Skara later this summer.

The pedigrees of the bought heifers are presented in table 1. •

Table 1. Pedigree of the bought heifers that recently have arrived at Örnsro, Skara

Heifer	Sire	Maternal grand sire	gNTM
52 Petrona	R David	Gunnarstorp	+25
891 Lilja	VR Ultimo	VR Bond	+26
750 ELLA	Buckarby	VR Alibi	+33
723 Kajsa	VR Havre	St Hallebo	+24
593	VR Ulv	V Föske	+26
1741 Stjärna	VH Suarez	VH Grafit	+33
807 Tora	Ullimulli	R Haslöv	+25

Heilimo's hat trick

ari Paananen, Savo in Finland decided in 2009 to make a serious investment in breeding and bought 15 embryos from the ASMO nucleus herd. The effort resulted in a number of pregnancies and also heifer calves, one of them being ASMO Heilimo ET (Turandot x Miqur). Heilimo was tested as a heifer on VikingGenetics' expense. She got a super gNTM and there were negotiations about buying her to the nucleus herd for flushings.

But Kari decided to keep the heifer at home and flush her himself. The first ever flush on the Päivärinne farm was executed with actual sire of sons P Yllyke. The flush resulted in four transferable embryos and among others VR Ylpeys bought by VG.

Heilimo kept her high NTM and she was flushed a second time as first calver with VR Urut = seven embryos and five pregnancies = four heifer calves and a bull calf. He was genomically tested, purchased for Viking and named Päivärinteen Urut Uuttu.

After the flush Heilimo was inseminated with VR Uudin and gave birth to a bull calf. Although the quota for testing calves by VR Uudin was more or less full, Heilimo's achievements awoke interest and the calf was tested. He also tested extremely high and was bought by VG. "Everyone of the bull calves tested are also bought; a pretty good success rate, isn't it", says Kari with a smile.

Kari has kept buying 5-10 embryos yearly to his 40-head herd, which mostly consists of Ayrshire animals. Taking part in LD-project (testing of all females) also facilitates testing of all own animals so the best dams for the next generation are easily found.



Kari Paananen, Finland, with the highly tested heifer Kesäheinä, already flushed with VR Faradi and inseminated with VR Lazer.



Success with ASMO and VikingRed

The monthly milk test day in May gave good results at LUKE (former MTT) research barn Minkiö in Finland. At this moment there are six ASMO-cows (VikingRed) in production with lifetime production over 50,000 kg.

Six 50,000 kg cows is a high number for a research barn with only 40 first calvers every year for research purpose. Minkiö barn has around 110 milking cows, all from VikingRed ASMO-breeding program. Herd 305 d production in 2014 is 9785 kg milk with components protein 3.6% and fat 4.3%.

The best production cow is without doubt ASMO Apila (Asmo Pohatta x Tyrisevän Miqur). Apila calved fourth time in December 2014 and has produced more than 52,000 kg of milk and is still in excellent shape. Her highest 305 day production is 14,985 kg.

Koivumäen Ansio (Orava x Oppium) has also reached 52,000 kg milk with four calvings and best 305 production 12,937 kg. Ansio is pregnant with VR Falcon.

ASMO Ylimys ET, daughter of Kivimäen Petro is from the first Asmo cow families bought from Sweden late 90's. MGGD Månsagård Vega Asmo is dam of Asmo Sale ET and



ASMO cows in Minkiö research center in Finland

Asmo Siirakki ET. Vega produced almost 90,000 kg of milk.

Other cows with over 50,000 kg milk are Mäntyniemen Öjberget (sire Ylileiviskän Pupilli), ASMO Voodoo ET (sire Margot Calimero) and Maitofarmin Mamis Äksöni (sire Juby Valon). Öjberget has bred the AI sire VR Turandot Tasa ET and daughter ASMO Eira EX93 (sire Turandot). Öjberget has high components protein 4.8% and fat 4.6.

The LUKE Research barn in Minkiö contributes to many feeding and breeding research projects with feed efficiency, reproduction technologies and environmental approach.



Koivumäen Ansio (Orava x Oppium) has reached 52,000 kg milk in four calvings and best 305 day production is 12,937 kg ECM.

VR Cigar - a legend has passed away

VR Cigar is known globally and used widely. He started by setting a massive stamp on pure breeding and afterwards crossbreeding found him very useful. VR Cigar passed away on 22 April nearly nine years old.

R Cigar was born in the herd of Jørgen Helms, Denmark, as the first calf by the R Alfa cow 2228. He was born before the implementation of genomic selection, but he was of course genomically tested when that was available. The result was excellent and he was one of the first Gen-VikPLUS sires in the beginning of 2010, and has been a daughter proven sire for the past four years.

VR Cigar has given a number of good sires and cows. For many years on he will set a foot print on breeding in VikingRed.



VR Cigar

We all say thank you to VR Cigar for his contribution to the red breeding. •



News about VikingJersey

VikingJersey do **genomic tests of bulls in the USA**

o ensure that our best bulls will have more accurate proofs in the USA and no longer depend on Interbull conversion factors, we have started to do genomic test of bulls in the USA. We will pay a publication fee for those that give the best results and will rank the highest.

The result will be increased focus on VikingGenetics' Jersey bulls both in the USA, but also in other export markets following how the bulls rank in the USA. The first results show that our bulls need high production indexes to rank high on JPI (Jersey Production Index) and NM\$ (Net Merit) lists in the USA. The reason is among others increased weight on protein when revising the American indexes this winter. However it is for certain that there is a huge market for our bulls of alternative pedigree with high solids and good health and fertility. New initiatives have been initiated to increase the sale significantly now that Schmallenberg virus is no longer an obstacle.

The Danish National Show with international Jersey visitors

In June the World Jersey Cattle Bureau (WJCB) and the European Jersey Forum (EJF) a joint event with meetings and study tours in several European countries will take place. Follow the news in our website.

The event finishes with a visit to the Danish National Show on Thursday 2 July. The Jersey programme at the Danish National Show will not be affected severely – however the progeny group competition will be moved to Thursday for the international visitors to come see the progeny groups and contribute to an international panel to judge the groups. We expect 40 international guests to visit Danish herds and the Danish National Show from 29 June to 3 July.

Young, genomic bulls and X-Vik work together

The strategy of initiating young, genomic bulls in X-Vik production at an early stage seem to be successful. Not all bulls are able to produce X-Vik, but those that can, will be prioritized and will enter the X-Vik daily plan. In spring VJ Lurik, VJ Rodme and VJ Stiz will represent the youth in the daily plan. We are not able to offer X-Vik bulls, but those that have X-Vik semen available have high NTM levels.

The use of X-Vik in our domestic markets is now 17-18% of the services. We recommend to increase the share if you

have reduced breeding, and thus reach an additional gain genetically. The latest monthly report shows a use of 71% genomic bulls and 29% daughter proven bulls. •



Progeny groups like this will be judged by an international panel of judges at the Danish National Show.



News about VikingHolstein

Winning time with embryos

he fresh embryo network has started well. There are a lot of contract herds receiving embryos, but still new herds are welcome.

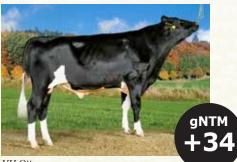
Embryos are transferred to farms nearby Hollola and by overnight transport to Ostrobothnia and Savo. In January, all flushed embryos were frozen, but in April, more than half of the embryos were transferred as fresh. Currently there are 16 Holstein heifers in Hollola. In the flushing program there are the number one daughters of VH Babel, VH Lumb, VH Brilon, VH Lyrik, Election and the second best daughters of VH Blumen, Leon, Preben and Super.

The average genomic value is +33 NTM-points. The range is 29-37. The very best young sires, that are starting semen production, are used for flushings.

Sires in focus

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VH Ottar (VH Omega x D Oscar x D Legal) Smaller cows with tremendous health and fertility



VH Ottar

It's a fact that smaller Holstein cows stay longer in production and with fewer problems. In the case of VH Ottar where body capacity is 85, this might relate to his extremely high level of female fertility (122) and udder health (121). Like VH Foster he is bred by I/S Rønhave, Denmark. **VH Foster**

(Fanatic x D Rom x S Jordan 3) The true all round bull



VH Foster

VH Foster is from I/S Rønhave

- the largest herd in Denmark with 2,200 cows. The dam is a half sister to the well-known sire VH Bismark. The dam by D Rom has produced almost 14.000 kg milk in average of 1.2 years.

VH Foster is a true all-round sire where no sub index is below 106. Therefore he's easy to use in any herd that wants trouble-free, long-living cows.

VH Fanta & sons (Fibrax x Satsi x T Hoppu)

Top daughter proven and true outcross



With VH Fanta we present to you the highest daughter proven sire with NTM +28. He gains two NTM units and now has 264 milking daughters. Daughters show very high production with production index 120 and at the same time impressive female fertility 122 – that is not often seen! VH Fanta was used sire of son based on his genomic information, and therefore we already have sons available from him now. Let's put our attention on VH Fiery (VH Fanta x VH Oyvind x Mascol) with gNTM +31. The dam is a high-producing VH Oyvind daughter classified 84. VH Oyvind has NTM +23 and still at the very top among daughter proven sires - so tremendous level and reliability as a foundation in VH Fiery. In VH Fiery you will find a good balance with high production, super health, fertility and strong udders.

VH Clark (D Cole x T Lambada x V Bojer)

The hoof health specialist



VH Clark has impressive 130 in hoof health combined with female fertility 119 and general health 113 – no wonder VH Clark keeps climbing up in the ranking among the daughter proven VikingHolstein sires. He has NTM +23 based on 166 milking daughters and 108 classified. VH Clark is born in the herd of Hans Thysen, Skærbæk in Denmark, from a high-producing VG85 T Lambada cow and her dam was a VG85 V Bojer from the test inseminations. If you are looking for a different Holstein pedigree with high NTM, you have found it!

VH Bynke

(VH Bismark × Ramos × Merdrignac) New daughter proven



VH Bynke daughter

VH Bynke is one of the most used bulls based on genomic information and we do see several VH Bynke sons in the very top of the genomic bulls – such as VH Beta (gNTM +37), VH Bubba (gNTM +35) and VH Borst (gNTM +34). Today there are already 1,777 milking daughters and 463 classified so the realibility is at the top. VH Bynke is bred from a strong Ramos cow classified VG85 and still milking in the herd of Johan Høyer, Denmark.

VH Bynke gives you rivers of milk, super udder health and maternal calving ease – important traits to make money from cows.

VH Zaza (VH Zhenja x S Ross x Rakuuna)

The spirit of VikingGenetics



Take a good S Ross daughter from a high-producing Rakuuna and inseminate her with VH Zhenja (VH Zac x RGK Didrik), That is what the breeder lkka Väänänen, Finland, did and got the interesting bull VH Zaza. It is difficult to find a bull with

more unique VikingGenetics spirit. Also when looking at the breeding pattern, it is clear that VH Zaza is one of a kind. Super high components, female fertility at 116, udder health 117, mammary 116 and milking speed 109.

VH Zaza

VH Saturn

(Sterling x D Sol x D Onside)

From another planet in the universe



VH Saturn is a son from American Robust son Sterling. Having D Sol and D Onside on the maternal side makes the odds really high for becoming a top sire.

VH Saturn is a fantastic production bull with production index and protein index on 127. Still his health and fertility are positive, conformation, milking speed and temperament are favorable = a good sire for general use in your herd.

VH Oure (VH Osmus x VH Bismark x T-Baxter)

Production and super sire line



VH Oure is breed at Anderstrup Holstein, Denmark. His sire, VH Osmus, is the second highest daughter proven sire with NTM +26. On the female side we find a VG89 VH Bismark with an average 305 d. production of almost 16,000 kg milk and 1,400 kg fat +

protein. The T-Baxter MGD is classified VG87 and behind her is the famous Italian born Oman Justi daughter Qualsiasi.

Just like his dad, VH Oure breeds smaller cows with high production, good health and super udders.

VH Oure

We see some reranking among VR sires this time due to changes in fertility index. Some new progeny tested sires pop up as well like VR Hugo (Hällom x Orraryd) with NTM +25. Other good progeny tested sires are VR Gobel (Gunnarstorp x S Major) with NTM +21 and VR Fimbe (R Facet x R Festival) with NTM +21.

VR Vimur

(Valpas x Ooppium x Peterslund)

Production and conformation



VR Vimur comes from Eva & Roger Arvidsson, Sweden. The dam is out of a cow family with several generations of cows with life time production exceeding 50,000 kg ECM. The dam is classified EX91 and has produced more than 14,000 kg ECM milk during the 12 latest months with a calving interval less than 12 months. The traits of Vimur's family can be seen in his own profile: top production combined with tall, capacious daughters with great udders.

VR Futis

(VR Fruity x Ullimulli x Ooppium) Good production and great udders



VR Futis

The dam of VR Futis is out the same flush as the former GVPsire VR Uudin. She was loaned as heifer to the ASMO nucleus herd in Finland where she was flushed three times with VR Solero, VR Fruity and VR Niki. The Fruity-flush gave 12 embryos; two bull calves were sold to VG and the best ranking heifer in the sire group across countries with NTM +30. The Niki-flush was also successful: eight embryos with one bull calf sold to VG. Unfortunately he had to be put down before semen production due to illness.

The dam has now calved once and she is a tall cow with good conformation, high production and an excellent NTM +32. The breeder is Sakari Oksanen, Finland. VR Futis is a good production sire with great udder conformation.

VR Fimbe

(R Facet x R Festival x Micmac)

VR Fimbe & VR Felipe – father & son



VR Fimbe



Dam of VR Fimbe

The newly progeny tested sire VR Fimbe is one of several R Facet sons in the VR breeding program. Fimbe breeds a perfect combination of production (116) and type: body 109, feet & legs 111 and udder 117. The daughters are fast milking and average udder health. He was born in the herd of Carsten Eriksen, Denmark.



VR Felipe by VR Fimbe

Fimbes son VR Felipe has been used as a GenVikPLUS sire since August 2014. Felipe breeds top production and especially high components. He is one of the best red sires in milking speed with index 124 having good udder health as well. Expect daughters to be slightly taller than average with excellent feet & legs as well as udders.



Dam of VR Felipe

VR Felipe is out of a G Edbo cow by Morten Hansen, Denmark, that was the best genomi-

cally tested heifer in the VG countries. She's been flushed several times with good results and has produced over 10,000 kg milk in her first lactation with high components: 4.7% fat & 3.8% protein. VR Faber, VR Fisker and VR Barkov are other sons of hers.

VJ Libero

(DJ Hulk x DJ May x Q Impuls) Beta Casein: A2/A2

Outcross that will fit any Jersey breeding program



VJ Libero is out of "Birkelygaard Hibe Rosa" by Niels Jorgen Olesen, Denmark. The maternal grand sire is DJ Hibe, a Q Hirse son of DJ Zuma's dam. VJ Libero does not carry Q Impuls genes.

The dam of VJ Libero has just started her second lactation and in her first 305 day lactation she produced 6,980 kg milk, 6.82% / 451 kg fat and 4.79% / 317 kg protein. The impressive composition from the mother seem to be passed on to the breeding values of VJ Libero.

VJ Libero breeds average size daughters of good type, excel-

Triple aAa: 243 Cappa Casein: BB

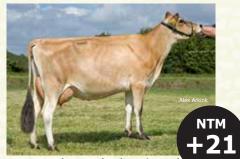
lent feet & legs and super shallow udders with ideal teat placement. Udder health, longevity, milking speed and temperament are also in top.

VJ Libero matured very quickly, entered the list of active sires at the age of 12 months and shortly after he began to produce sexed semen. VJ Libero is very popular as sire of sons.

Beta Casein: A2/A2 X-Vik available

VJ Link

(Legacy x Q Hirse x JAS Hot) The link to high profile VikingJersey outcross



Norvang Link Nora - daughter of VJ Link

VJ Link is probably the best daughter proven Legacy son world wide. The contribution of genes is 53% North American, 41% Danish and 6% New Zealand. Most of the American genes come from Legacy and a little from Top Brass (MGS of JAS Hot). New Zealand genes come from Glenmore Royal Guide in the Q Hirse pedigree.

VJ Link is a breed leader for female fertility and his breeding values for udder health, hoof health and longevity are outstanding. Daughters have exceptionally strong feet & legs, udders are shallow and teats have ideal size and placement.

VJ Link is out of "Lango Hirse Donna II" by Aksel Rubaek, Denmark. The Lango herd is also known for breeding the polled sire VJ Miro-P. Both sires can be traced back to the common ancestor "Lango Danny Dreamer" born back in 1983 with NZ Ruscot Star Career in the pedigree. Sires like ODA Grand (Grandeur Dreaming Sam) and Q Hirse (with Glenmore Royal Guide genetics) are also bred in the herd.

The dam of VJ Link finished seven 305 day lactations, with an average of 7040 kg milk, 5.80% / 411 kg fat and 4.06% / 290 kg protein.

VJ Link will be an excellent choice for daughters after DJ Hulk, DJ Lix, DJ Broiler, DJ Hovborg and North American pedigrees without Perimiter in their pedigrees.

VJ Link is used as sire of sons and daughters are used as bull dams to breed the next generation of Viking Jersey outcross genetics.

VJ Stiz (V) Zummit x DJ May x DJ Lirsk) Type, udders and health



Sisse May Moonlight VG85 - dam of VJ Stiz

VJ Stiz is out of "Stisse May Moonlight" from the Sjorup Vestergaard herd in Denmark. VJ Stiz is the first son of VJ Zummit (DJ Zuma x DJ Topholm). Zummit is still genomic, but he will add daughters to his proof in August. The strong sire line up is without Q Impuls and DJ Hulk.

VJ Stiz breeds tall, high-producing component daughters with excellent type, well-attached udders and extremely strong ligament and correct teats. Udder health, longevity, milking speed and temperament are other of VJ Stiz' trademarks.

The dam of VJ Stiz is scored VG 85 and has milked for 2.8 years with an impressive yearly average of 8,490 kg milk, 6.32% / 536 kg fat and 4.22% / 358 kg protein.

VJ Stiz is used heavily as sire of sons.

Triple aAa: 156JH1 FCappa Casein: ABBeta Casein: A2/A2X-Vik available

Triple aAa: 651423 JH1 F Cappa Casein: AB Beta Casein: A2/A2 X-Vik available



20 YEARS WITH VIKING GENES IN SOUTH AFRICA

VikingJersey / Danish Jersey have gained wide popularity in South Africa over the past 20 years. When visiting the owners of cows with VikingJersey genes, we get the same positive comments to their satisfaction: VikingJersey genetics guarantee profitable cows with high solids, good conformation, health and fertility. The VikingJersey cows easily adapt to various conditions from pasture systems along the south coast to semi desert farming with extreme hot summers in the North. The good results with VikingJersey in South Africa have opened the doors for VikingHolstein and VikingRed who are also superior for solids, health and fertility.



Arno Kruger



40 stand swing over milking parlor by Arno Kruger

Arno Kruger, Tsisikamma, Eastern Cape 1500 Jersey cows + 200 cross bred cows Av. 5,800 liters 4.70% fat 4,20% protein 375 ha pasture + supplements in the parlor 70% of cows by VikingJersey sires

"On our farm we have a pasture system as we get good rainfall during summer and we have the possibility to irrigate as well. We have a seasonal calving system in which we calve in the spring and autumn and supplement the cows during lactation with 6-8 kg concentrates per day. We use 70% VikingJersey sires and 30% from other countries. The Viking/ Danish sires we have used are DJ May, Q Impuls, DJ Zuma and a number of other good sires. The results are nice, medium sized cows with high production of solids and good udders which is important to us when running 1,700 cows through the 40 stand swing-over parlor every day. Also I like to highlight the fertility of the Viking/Danish sires which is also very important when practicing seasonal calving. We have an excellent cooperation with Hendrik Bezuidenhout from Genimex, who gives us all the advise we need to make optimal use of VikingJersey sires".



Herd manager Kassie Kasselman with his 1200 grazing VikingJersey cows



Jersey cows at Joenkershoek Farm

Joenkershoek Farm of the van Greunen Brothers, George, South Africa 1300 Jersey cows Pasture management

Manager Kassie Kasselman is in charge of the two dairies at Joenkershoek Farm near George in the southern part of South Africa. The goal is to produce as much milk on pasture as possible with a supplement of concentrates, but they also buy in lucerne and maize silage and make their own grass silage to feed during the winter months. The cows are run in three groups of about 450. "We are making use of a lot of Viking-Jersey sires. Q Impuls was the first sire we used really intensively and after him Q Zik, DJ Zuma, VJ Lure and at this stage VJ Husky" Kassie tells. "We are using VikingJersey because of the high solids. Our milk is sold for an industrial dairy mostly for cheese and other high solid content products. What I also like about VikingJersey is that you have been selecting for better health, mastitis and fertility for many years. We find that the fertility is really good on the Viking cows. They are getting pregnant easily and calve at about an average of about 380 days inter calve period. Cows by VikingJersey sires are easy to manage - we just supply them with feed and then they take care of themselves" Kassie explains.





Etienne Zeeman



Jersey cows at Leeurivier Farm getting in for milking

Leeurivier Farm owned by Etienne Zeeman, Western Cape, South Africa Goal is 3-500 Jersey cows Production 18-20 litres av/day 5,0% fat and 4,0% protein Grazing day and night + 6 kg concentrates

"We started the farm with grapes, fruits and vegetables, but prices were often below production cost" Etienne Zeeman tells. "Therefore we decided to change to dairy production as this gives a better and more stable return. We have access to water and irrigation with our own dam and get enough rainfall during the winter. Right from the beginning we have been using Danish Jersey sires as they are the best in the world for butterfat and protein. Our dairy pays only on solids so we are not breeding for liters of milk. We breed exclusively with Viking-Jersey sires and haven't got a bull on the farm. We are milking many daughters by Zuma, Impuls and Lix. At the moment we are using Lirsk. We've really made an improvement over the last couple of years and the goal is to enlarge the herd to 3-500 cows exclusively by using VikingJersey genetics.

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Michda Trust, Humandsdorp & Masizakhe Trust, Tsitsikamma, SA



Modern rotary parlor at Masizakhe Trust



Cows lining up for milking at Michda Trust Farm



The managament team at Oudewagensdrift



Super functional VikingHolstein cows - daughters by D Skotte

Michda Trust, Humandsdorp & Masizakhe Trust, Tsitsikamma, 2400 primarily Jersey cows 8000 doses VikingJersey annually 1000 ha - pasture management

Michda Trust and Masizakhe Dairy Trust (MDT) are family dairy operations owned and managed by Migo, Reynier and Ida Meyer together with their management team.

Michda Trust operates on three farms near Humansdorp and Masizakhe Dairy Trust (MDT) in Tsitsikamma.

All together the two trusts have 2,400 cows – primarily jersey – on 1000 ha of land. The system is grassbased with cows grazing day and night all year round. The Michda and Masizakhe trust buy 100% of their jersey semen from Genimex, who represent VikingGenetics in South Africa. They are very pleased with VikingJersey sires giving them high-yielding, fertile, healthy and long-lasting cows that are easy to milk in the rotary parlors. All together the trusts use 8,000 doses of VikingJersey semen annually and have been exclusively VikingJersey since 2009.

Reynier Meyer explains that the butterfat has increased impressingly 0.6% and protein by 0.3% over the last five years. "For every generation we can register the improvement of solids, which is what we get paid for. Also type and fertility of the cows get better for every generation of VikingJersey sires".

Oudewagensdrift, Western Cape choose VikingHolsteins 950 cows - 2/3 Holsteins and 1/3 Jerseys TMR based system

The Naude brothers, Wilhelm, Peini and Johan are the proud owners of the family farm Oudewagensdrift in Western Cape Province in South Africa. Currently they have 950 cows in milk and a 50 stand rotary milking system. Approximately two thirds of the herd is purebred Holstein and one third is purebred Jersey. Peini Naude says: "My challenge is to breed cows with good longevity. The fertility definitely regressed over the years, and the main reason is the high pressure we have on production with 34 kg milk per day. Higher cell count added to the problem. For me it is very important to use genetics from a reliable source where high emphasis is put on those two traits. There is no doubt that the Scandinavia countries are far ahead selecting for health and fertility".





Ivor Reid has succesfully been using Danish Jersey sires in his pedigree herd for over 20 years

Haystack Herd, Johannesburg, South Africa 120 Jersey cows (85% Danish/Viking) 17 ha - 600 mm rainfall

Ivor Reid runs a relatively small Jersey pedigree herd near Johannesburg with 120 cows of which 60 are in milk. The 17 ha land is all in pasture and Ivor buys all his feed including concentrates. At the moment he is a bit overstocked, so he will select the genetically best young cows that all carry Danish/Viking Jersey genes. Recent sires who have done a great job in the herd are DJ Broiler, DJ Impuls, DJ May, DJ Lirsk and many of the heifers are by DJ Zuma. "Danish/VikingJersey sires have given me tremendous progress over the years. The Viking sires come with detailed declaration, they are easy to combine with due to their various pedigrees and you know what you get", Ivor Reid highlights.



Manager Heinrich Hurte with his team at Packwood Estate

Packwood Estate, Western Cape, South Africa 420 mainly Jersey cows Av. 5,500-6000 liters Mainly pasture + maize in the dairy 420 ha - pasture + crops

"We've started using Viking/Danish Jersey about four years ago" manager Heinrick Hurte tells. "At the moment we are milking 60 Hovborg, Zik and Impuls cows with another 120 heifers by these sires to calve next year. We have rapidly increased the solids - butterfat and protein - significantly with the Viking/DanishJersey sires. The highest average production is 18 liters and we practice seasonal calving twice a year. Also the temperament and udders have improved. Jersey is a beautiful and efficient dairy cow and we will keep going further with the use of Viking sires", Heinrick rounds off the interview.

The Gerber family, George, South Africa 1300 Jersey cows Pasture system + TMR VikingJersey sires for 10 years 500 Q Zik & 300 Q Impuls daughters

Ian Gerber, his brother and father run a family based dairy cooperation on the south coast of South Africa between Knysna and George. The farm is pasture based but to increase the size they need to use TMR based on maize as well. "We started off with a Friesian herd but the

Ian, Nic and Johan Gerber in a beautiful maize field with their water resevoir behind



dairy companies in our area pay only on milk solids and not on litres. To make more profit we are therefore forced to produce more solids, and no other breed can compete with Jersey when it comes to efficient production of solids. In 2008 I visited Tienie Durr, who has a large jersey herd in W Cape and has been using Danish Jersey sires for many years. He showed me a beautiful group of healthy Q Zik daughters with excellent udders and very high solids. From that day I was convinced that the VikingGenetics NTM suited my breeding policy. Before

Q Zik daughters in first and second lactation by the Gerber family in Southern Cape, SA

that I used DJ May, Hovborg and DJ Look", Ian Gerber explains. The sires in the herd with the most impact today are Q Zik: 550 daughters, Q Impuls: 330 daughters and DJ Zuma with 264 daughters. Currently they use VJ Lure, DJ Hulk and VJ Himp. "The Viking sires have helped us tremendously to achieve the positive results so far. It is very important to use sires with high reliability and this we get from a unique gene pool developed for the benefit of the farmers. It is a fact that the VikingGenetics bulls are very good for solids", Ian Gerber stress.





NEW AND INTERESTING PROJECTS IN CHINA

In China ad hoc advising in feed planning, feed analysis, health, reproduction and breeding has high priority. Therefore VikingGenetics is in the process of establishing an advising package that will attract large Chinese state-owned farms and create interest in the Viking breeding profile.

Farm groups up to 70,000 cows

- 1. **Tianmu Farm** in the Ganzu Province in central north China is a newly established state-owned farm with investments of 1 billion Yan. The investments include all from land (app. 10,000 hectares at the moment), irrigation, field machinery, buildings, equipment and purchase of heifers for breeding. The goal is 30,000 Holstein cows and they have 3,000 Holstein heifers imported from New Zealand.
- The YILI Group is the second largest Chinese owned dairy, buying milk from app. 1 million cows 50% of the cows are owned by the

YILI Group. YILI has built several large farms and still expands.

- 3. **The Jialihe Farm Group** has 20 farms with 70,000 cows and their goal is 100,000 cows. We visited a farm of 2,200 cows.
- 4. In the **Heilongjiang** province in the Northeastern China close to the Russian border is a group of 15 large farms with 50,000 cows. We visited farm no. 8511 with 550 cows who has used VikingGenetics sires since the first Chinese semen import in 2011 from Sweden. Daughters by TP Björkil have now finished their first lactation

with very fine results - several of them have produced 11,000 kg milk in first lactation – this is 1,000 kg more than herd average. All services since 2011 are with VikingHolstein sires like D Etoto, D Skotte and S Ross. The breeding manager for the farm group was very positive about the results: easy calvings, robust cows, high production and good longevity. In the Heilongijang province the demand for VikingHolstein sires is increasing.

 At the Dairy Expo in Harbin Viking-Genetics was represented by our distributor TS Cofine – a subsidiary by the Chinese AI organization Tianshan.



Checking quality of maize silage at Tianmu Farm



The TS Cofine booth at Dairy Expo in Harbin

Tianmu Farm. Mr Leo and HC Hansen in front of 3000 heifers imported from New Zealand





TS Cofine Sales Managers by a memorial in Ganzu



Heilongjiang Province - Mr Xin (General Manager of TS Cofine), Karsten Bording (VikingDenmark), Mie Riss (LMO), HC Hansen (VikingGenetics), Mr Wang (Chairman of Dairy Group).

Chief technician Karsten Bording checks heifers at TianMu Farm



COMPARING VIKINGJERSEYS WITH HOLSTEINS IN THE NETHERLANDS

On the Dutch dairy farm "De Meeuw" purebred Jersey and Holsteins are kept in two groups under the exact same management conditions. It gives a unique opportunity to compare the two breeds.

At "De Meeuw" (meaning "the Seagull" in Dutch), owned by Jan willem Elzinga & herd manager Pieter de Vries, the "Kempen-system" is being used where hay or hay-silage and concentrate are fed ad libitum. By housing the two breeds of cows in two separate groups, with the same system, it gives a unique opportunity to measure the feed efficiency between the two groups, because input and output are easy to measure. The Jersey cows on the farm were all second lactation cows, but there were several third and fourth lactation cows in the Holstein group, when this article was made in the spring of 2015.

Table 1. Estimated 305 day production

	VikingJersey	Holstein
Kg milk	7,782	10,052
% fat	5.73	3.85
% protein	4.17	3.52
Kg fat & protein	770	741

In daily kg's ECM the VikingJerseys produced 36.5 kg and the Holsteins 34.6 kg.

Income over feed cost

The VikingJersey cows produce more kg's fat and protein than the Holstein cows. But what is even more interesting they need 30% less feed to do so!

Table 2. Milk income (305 days incl. lactose) and feed costs

	VikingJersey	Holstein	Difference (VJ-Holstein)
Milk income per lactation	€ 3,206	€ 3,268	€-62
Feed cost per lactation	€ -1,160	€-1,709	€ 549
Income over feed costs	€ 2,046	€ 1,559	€ 487

The financial advantage of the VikingJersey cows compared to the Holstein cows in this example is ≤ 487 per lactation. This amount will multiply by 1.1, as one can hold 10% more VikingJersey cows in the barn than Holsteins. The total profit of the VikingJersey cows over the Holsteins is ≤ 536 .

Better hoof health

The VikingJersey cows have hard, black hoofs. On the dairy farm "De Meeuw" they experience much less trouble with hoof health on the Jersey cows compared with the Holstein cows. This is due to the fact that there is less weight on the Jersey cow and the harder black hoofs. To enter the VikingJersey herdbook the bulls must have black hoofs to secure this advantage.

Better fertility

The VikingJersey cows have all been inseminated with sexed semen on the dairy farm. With the excellent fertility they all calved the second time within one year after first calving. The VikingJersey bulls do not carry any JH1 haplotypes, which is a great help in reaching a high level of reproduction in the purebred VikingJersey herd.



1st lactation VikingJersey cow sired by DJ Izzy and owned by Jeroen van Maanen in Zeewolde, the Netherlands in beautiful tulip surroundings.



De Meeuw Diewertje (100 % VikingJersey) sired by DJ Broiler and owned by Pieter de Vries and Jan Willem Elzinga, Lelystad, the Netherlands.



On the Dutch dairy farm "De Meeuw" purebred VikingJersey and Holstein cows are kept in two groups under the same conditions. The VikingJersey cows produce more solids, they need 30% less feed, they have better hoof health & fertility = total profit of \in 536 per cow over the Holsteins!



HAPPY VIKINGGENETICS CUSTOMERS IN THE BALKANS

VikingGenetics also has happy and content customers in the Balkans. In April our Export Managers Jan Andresen and HC Hansen visited customers in Bosnia and Croatia.

At Farmland AD, Nova Topologi in Bosnia they have 1800 Holstein cows and 1550 ha grass and maize. The goal is 2000 cows and to increase the average production from 32 to 35 kg/day. Farmland AD have imported heifers from Denmark, Sweden, Holland and Germany – but herd manager Vladimir Vulkan is not in doubt: the best heifers are from Scandinavia. Therefore it is also the obvious choice to buy bull semen from VikingGenetics.

In 2012 they bought 700 doses of VH Bowie (D Banker x Ramos) and 300 doses of D Obsess (Oman Justi x D Novalis) and last year 2000 doses of D Onside (T Officer x H Manfred). Vladimir explains that they will continue to buy proven sires at high reliability from VikingGenetics. Important traits are easy calvings, good hoof health, health and longevity. The herd has 117 employees paid $250 \in$ per month + $150 \in$ tax. The current milk price is $0.35 \in$ + $0.15 \in$ state subsidy. One week old bull calves are sold at a price of $250 \in$.

In Croatia Jan Andresen and HC Hansen visited a herd of 1000 cows in two farms and young stock in a third farm. The average production is 7.500 kg (305 days). The herd uses 100% sires from VikingGenetics, and last year they bought further 65 Holstein and 100 Jersey heifers in Denmark.



Export managers Jan Andresen and HC Hansen visiting a herd of 1000 cows in Croatia using 100% sires from VikingGenetics.



At Farmland AD, Nova Topologi in Bosnia they have 1800 Holstein cows and herd manager Vladimir Vulkan is very pleased with genetics from Scandinavia and VikingGenetics.

PELL-PERS DOING WELL IN CHILE

Pell-Pers has been one of the most popular VikingRed bulls in Chile during last years. The bull transmits characteristics which

fit perfectly in the production system of Chile – pasturebased management with a high appreciation for milk solids. Pell-Pers gives durable daughters with medium size, snuglyattached udders, strong feet & legs, high milk production as well as excellent calving and health traits.

These first-calving Pell-Pers daughters are milking in a farm "La Esperanza", owned by Rodrigo Beltrán. The farm is located in Loncotoro, Puerto Varas in Southern Chile.

Pel Pers daughter







VikingGenetics – more freedom for you and your family

By using high NTM-sires from VikingGenetics you will get high production, healthy cows with functional conformation. All in one great package!



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