- THE GENIMEX JOURNAL -

MILK & HONEY

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SALSBJERGGAARD
A Jersey herd in Denmark calving seasonally

AMADLELO
Bestuurders toer Nieu-Seeland

PRESS RELEASE
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A selection tool to aid the reduction of the use of Antibiotics in dairy cattle

DENEMARKE 2017
Suiwelboere op studietoer!

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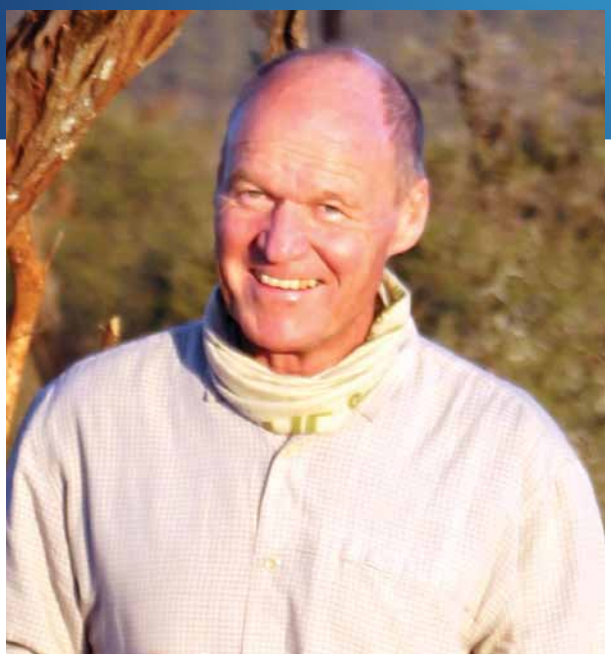
Foreword

By Chris Cloete



The Genimex Bi-annual get together of agents, as always, came around very quickly and once again it was held at Otterskloof near the town of Pilippolis in the Freestate.

Instead of the normal training on our extensive product line up and talking about supply, stocks and prices, I decided to turn the meeting onto it's head and asked each agent to come up with a topic that he or she wanted to present and discuss.

All I can say is WOW, what an incredible meeting it turned out to be with a large range of relevant topics brought to the meeting by the agents.

The Genimex team, as seen on the photograph on the top of the opposite page are, from left to right:

Back row: Dave Swift, Ferdie Myburgh, Willem van Lingen, Hendrik Bezuidenhout and Shawn Buckley.

Front row: Chris Cloete, Britt Stanton, Simon Alderson-Smith and Johan Muller.

At the end of the meeting I once again realised that the team of Genimex agents have an incredible wealth of knowledge that has come from hard work and having been in the industry for a very long time.

This is, in my opinion the "A TEAM" of semen agents in South Africa.

At the meeting it was agreed that we as a business will get on and register each agent with the SA Council for Natural Scientific Professions (SACNASP). At this stage only myself and Simon are registered with SACNASP in the whole of the so called AI industry, makes one think. With a team like this they deserve the right registration and recognition.

So what is new and exciting in this the 13th edition of Milk and Honey?

Genimex has to a greater or lesser extent always been involved in AI and Heat Spotting training and this has just been stepped up a notch with the introduction of Henryetta the artificial cow. Henryetta was launched at the SALHC last year and has subsequently been used widely. Together with the purchase of a new product from IMV, AlphaVision training has been stepped up even more. See page 20 of this publication for more information.

VikingGenetics recently launched VikingDefence™ which is an amazing composite index only possible from a country with the kind of database that they have in the Nordic countries of Denmark, Finland and Sweden. This database in excess of 900 000 cows makes VikingDefence™ a world leading selection tool and is not based off limited numbers and similar traits that are based on correlations.

Genimex together with Livestock Improvement Corporation New Zealand (LIC NZ) and more specifically FarmWise continue with their support for the Amadlelo herds. The third group of interns are now in New Zealand for their year of on farm training. Ken Bartlett has just completed his latest visit to the Amadlelo herds. See his report on page 24.

For those of you that base your production systems on pasture production, here is some front end technology from LIC NZ. With the use of the large numbers of satellites circulating the earth and high definition cameras. LIC NZ has developed the algorithms to measure pasture growth from satelite imagery. After extensive trials in New Zealand, firstly on the South Island then on the North Island, the bugs have been ironed out and the technology has been rolled out commercially in New Zealand. Genimex has been tasked with getting historical pasture growth data and farm maps from South African dairy farms with the view of rolling out the technology here in South Africa. See Page 25 of this publication. We are looking for more herds that are prepared to share their historical data with us so that we can conclude the trails here in SA. Please contact the Genimex office or agent in this regard. Once we have this trial work done, we will roll SPACE out in SA. This I believe is a huge step forward in pasture management. Many dairymen will prefer to still do the tradition farm walks or have their staff do it but SPACE will allow farm walks to be monitored.

Bulling Beacons have become synonymous with identifying cows on heat and has proved to be particularly accurate. Here is the exciting part, Genimex together with Beacon Automation in Australia will soon be rolling out "GENIMEX SELF ADHESIVE HEAT PATCHES" or simply put "GENIMEX PATCHES". After a lot of work on getting the glue right and determining the time frame of the activation of the patches Beacon Automation is very confident about the branding and the roll out of the product. Your agent will advise you as soon as the GENIMEX PATCHES are available.

I hope that you enjoy this edition of Milk and Honey.

Chris Cloete

SALSBJERGGAARD

A JERSEY HERD IN DENMARK CALVING SEASONALLY

Søren Madsen, owner and manager of the Salsbjerggaard Jersey herd on the Island of Seeland 150km's South West of Copenhagen, worked in New Zealand in 1993/94 and on his return to his home farm in Denmark he decided to implement seasonal calving. The concept was quite unique to Denmark and he had to firstly look at the seasonal growth patterns of the rye grass and try and optimise the use of the fodder grown.

Due to the very wet and harsh winters, it was not possible to graze the herd all year round so he had to plan to harvest fodder to store for the use during periods when the herd was indoors. Strangely he decided to actually harvest the best grass during the Spring flush rather than graze it. Taking off a total of 5 cuts per season.

Søren started the transition to seasonal calving in 1995 and in 1996 undertook the first year of seasonal mating and thus the first season of calving was in 1997. He inseminates from 8 September through to 15th October. Thereafter he puts bulls in until the 25th of October. Pregnancy tests are done early January and the herd starts calving on the 15th of June. In 2017 Søren achieved a 7% empty rate.

Heifers are mated for 10 weeks.

The herd is grazed from 15 April to 20 October and housed in barns for the rest of the year.

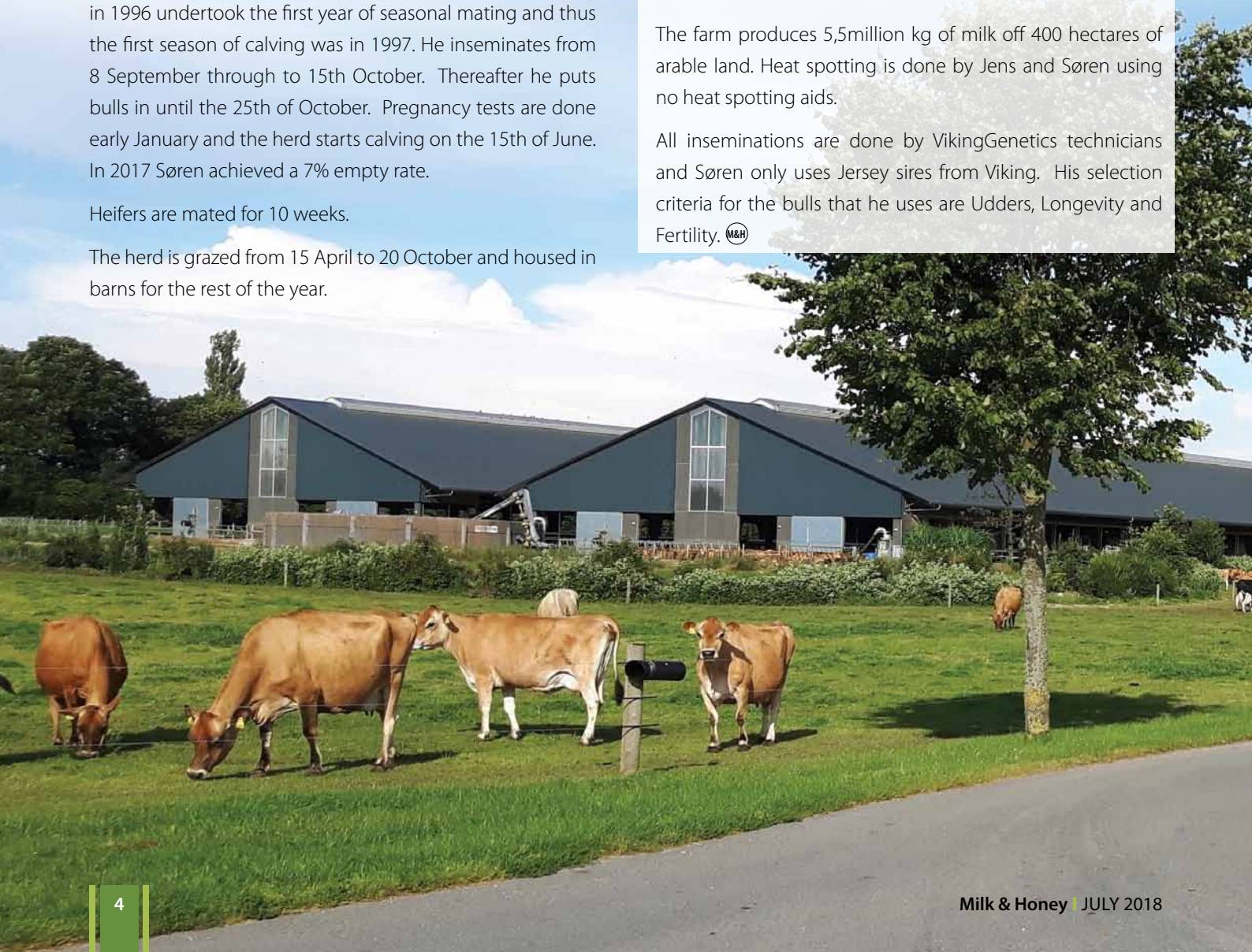
The current production and reproduction status of the herd is:

Cows in milk	648
Kg milk	9031
Kg Fat and Prot	874kg
Fat %	5,58%
Protein %	4,09%
Cow mortality	3,3%
Stillborn calves	2,0%
Calf mortality	1-180 days / 1,3%

Søren consistently gets between 7-10% empty rates by the end of the breeding season. A notable achievement of the Salsbjerggaard Jersey herd is that it has the highest Gross Margin per cow per year in Denmark. Gross Margin in 2017 was 20 300Dkr.

The farm produces 5,5million kg of milk off 400 hectares of arable land. Heat spotting is done by Jens and Søren using no heat spotting aids.

All inseminations are done by VikingGenetics technicians and Søren only uses Jersey sires from Viking. His selection criteria for the bulls that he uses are Udders, Longevity and Fertility. M&H



Chris Cloete

Aerial view of the Salsbjerggaard Farm

Photo of cow no. 1237, when celebrated for 10.000 kg fat + protein. Standing with the cow is Søren with his wife Heidi, their son Mikkel and brother Jens

Management of calves in a seasonal herd is simple

Simon Alderson-Smith

New Zealand trip

2 FEBRUARY - 23 FEBRUARY 2018

On the 2nd of February of this year I left for my first trip to New Zealand to visit LIC's head office and to spend some time with several New Zealand farmers. As I have been advising and selling the LIC product for almost eight years, this was an opportunity to meet the people behind the science and to further my appreciation of the mechanisms that make LIC a global leader in dairy genetics and a firm favourite at home with three out of four cows sired by an LIC bull. As the 8th largest milk producer in the world, New Zealand's commercial dairy sector is of vital importance to national GDP and a lot of this success is attributed to milking the right cow.

Quick stats between South Africa and New Zealand for a bit of perspective.

	South Africa	New Zealand
Population (people)	56 000 000	4 900 000
Land area	1 200 000 km^2	270 000 km^2
Density (people)	42,4/km^2	17,9/km^2
Population (dairy cows)	550 000*	4 800 000
Density (dairy cows)	0,5/km^2	17,7/km^2
Producers OR herds	1 503	11 748
Herd size average	354 cows	414 cows
Milk Production (million tonnes) – 2015	3,2	24,6
Export revenue (dairy)	Unknown	$NZ 13,4 Billion

* Estimated

Data from Wikipedia, Lacto Data November 2017, New Zealand Dairy Statistics 2016-17.

Chris Cloete, Ken Bartlett and I spent our first evening with farmers Colin and Dale Armer. Colin and Dale presented at Genimex's Dairy2020 workshops and graciously invited Chris, Ken and myself to spend a night with them and also spend some time with two of their managers *(See pages 8 and 9)*. Two things stood out on the drive and subsequent travels around the North and South island. First being the size of the cows, they were all strong capacious cows with excellent spring of rib that were bred for grass. National averages are, Holstein-Friesian – 471kg, Crossbred – 447kg and Jersey – 403kg. Secondly, the ability to walk long distances on undulating terrain was something to marvel.

My days at LIC Head Office were extremely educational and covered a wide variety of topics:

ESTER DONKERSLOOT (TECHNICAL)

- Technical info and reports used by field agents and LIC distributors.
- Bull Marketing Reports (BMR) and the calculation methods used for the figures.
- Short Gestation Length (SGL) sires and how to use them effectively in the field.

RIC SHERLOCK

- The continual development behind the Breeding Worth calculations and therefore keeping LIC ahead in the market.

TAYLOR CONNELL (SIRE ANALYST)

- Sires making their first appearance in the catalogue this season started their journey at the beginning of 2012 with nine months of research before the resultant contracted mating, birth in 2013, AI use in 2014 then put to pasture until daughter figures are analysed and compiled thereby giving you the BMR reports used for sales in 2018.

SATELLITE PASTURE AND COVER EVALUATION (SPACE™)

- SPACE and the roll out in New Zealand and South Africa.

Following my time at LIC I made several farm visits on the South Island and find out first-hand the reality of being a NZ dairy farmer. What stands out the most for me is the progression of staff. For a manager to come onto a farm and work for five years then move on is celebrated and in a way, encouraged. A manager that has long term goals and aspirations of owning his or her own farm or becoming a sharemilker themselves will inevitably come in with new ideas and challenge the owner or sharemilker to keep on top of developments. This challenge to your way of thinking will, hopefully, keep you pushing boundaries. This manager will make changes, both good and bad, which will keep the consistent owner and sharemilker moving. This can only be accomplished by someone who has goals beyond your farm and into the future.

I would encourage any pasture based dairy farmer to seriously consider a trip to New Zealand to fully comprehend the benefit he or she would gain from using LIC sires in their herd. M&H

Breeding for High Production

WITH LOW USE OF ANTIBIOTICS IS POSSIBLE

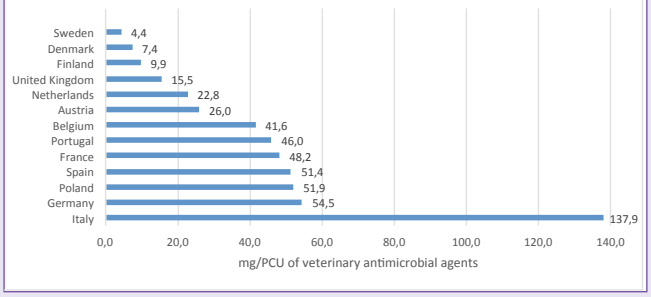
Dairy farmers in the Nordic countries clearly understand that breeding is a crucial part of ensuring a successful dairy business and just as important as finance, feed and management. A natural defence against diseases in the genes of cows has been part of our breeding goal since the 1980´s; it has been at the heart of our Scandinavian philosophy driven by the fact that Nordic countries have very strict veterinary regulations regarding the use of antibiotics.

With limited access to antibiotics, the dairy industry in the Nordic countries has been compelled to find other ways of keeping cows healthy.

The Nordic tradition in breeding for healthy cows is reflected in the latest report from the European Medicines Agency (EMA), from 2016: "Sales of veterinary antimicrobial agents in 29 European countries in 2014". According to this report, Sweden, Finland and Denmark are the EU member states with the lowest use of antibiotics in livestock, far below the rest of the EU.

TABLE 1

Table 1: Sales in mg/PCU (Population correction unit) of veterinary antimicrobial agents marketed for food-producing animals



Source: From a report by the European Medicines Agency, European Surveillance of Veterinary Antimicrobial Consumption, 2016. 'Sales of veterinary antimicrobial agents in 29 European countries in 2014.' (EMA/61769/2016).

For instance, the use of antibiotics in cattle breeding in the UK is of particular concern. The Department for Environment, Food & Rural Affairs in the UK is aiming for a reduction of 20% of mg/PCU (Population correction unit) by 2020, based on a plan dating from 2015.

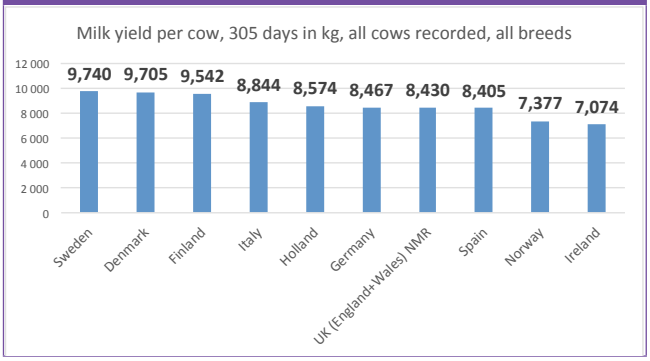
According to The Alliance to Save Our Antibiotics in the UK, only 40% of intramammary antibiotics are used for sick cows, which means that 60% of such use is in healthy cows (for prevention and growth promotion reasons). In addition, 85% of non-organic farms routinely use non-selective dry-cow therapy with at least two antibiotic treatments per cow, per year.

Lars Nilesen, VikingGenetics

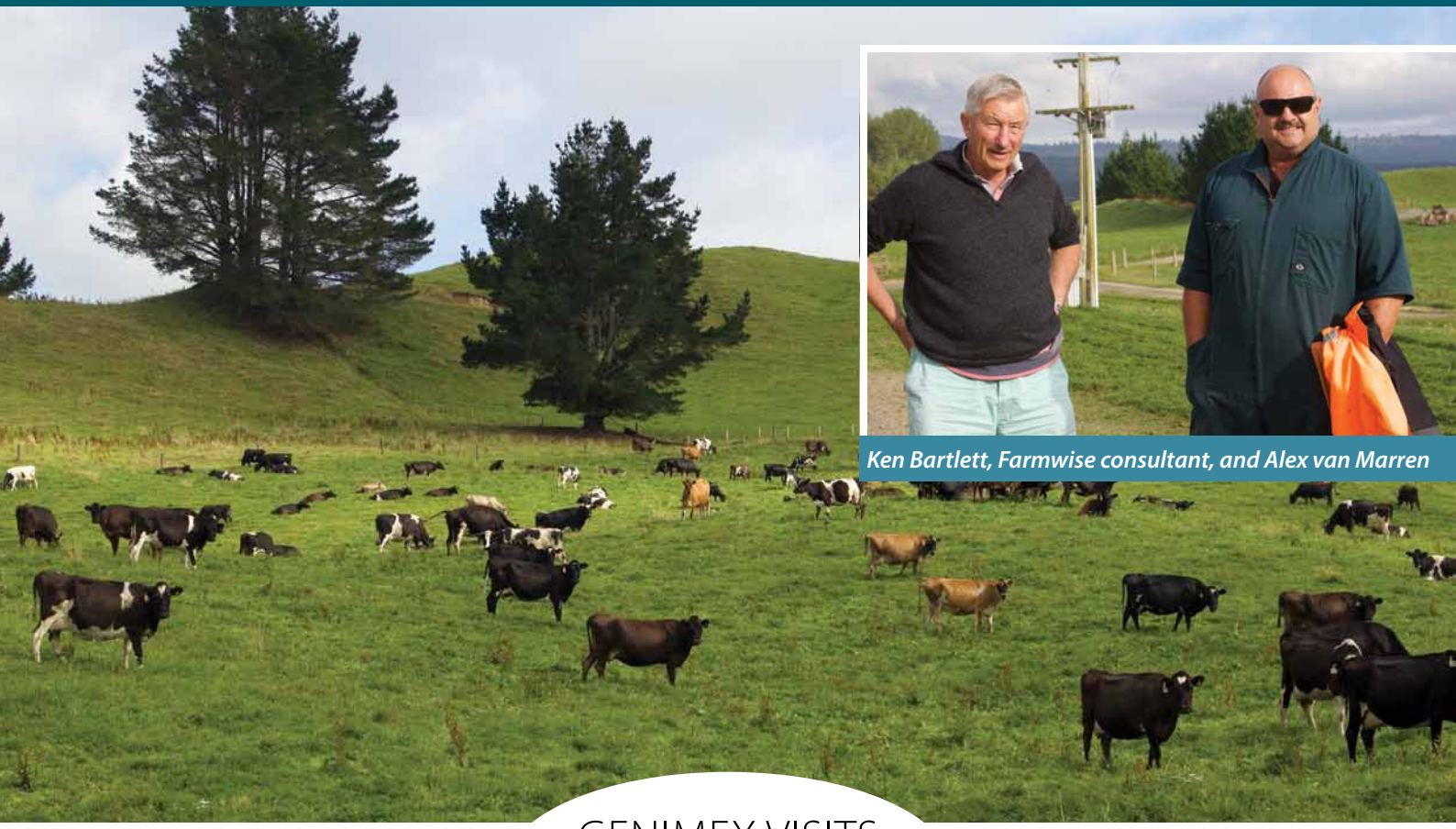
HIGH MILK YIELD

In contrast, Scandinavian farmers not only have the lowest use of antibiotics but also the highest milk yield per cow over 305 days, in kg all recorded cows and all breeds, according to the International Committee for Animal Recording (ICAR). See Table 2. Sweden produces an average 9,740 kg of milk, Denmark 9,705 kg and Finland 9,542 kg compared to an average in the United Kingdom (England + Wales) of 8,430 kg, Norway 7,377 kg, Ireland 7,074 kg and Spain 8,405 kg.

TABLE 2



Strict veterinary rules in the Nordic countries with restricted use of antibiotics have forced the farmers to find other ways of keeping their cows healthy. Good management and breeding for better health have shown them the path to ensuring success in their dairy business. M&H



Ken Bartlett, Farmwise consultant, and Alex van Marren

GENIMEX VISITS

COLIN & DALE ARMER

AT THEIR GRAZING BLOCK NEAR LAKE TAUPO

During the last two weeks of March 2017, Genimex and LIC hosted a series of well attended workshops for pastural dairy farmers in the Eastern Cape and Natal.

Colin and Dale Armer, sole shareholders of the Armer Group in New Zealand, were two of the presenters at the workshops. The Armer Group currently own 15 Large Scale dairy farms (500 – 1200 Cow units) in four Grazing Block units on the North Island of New Zealand. They also own all the support land in order to be self sufficient.

On a recent visit to New Zealand I had the privilege of visiting Colin and Dale at their grazing block near Lake Taupo. This grazing block is 4200ha in extent and consists of 9 dairy farms run by 9 contract milkers and 27 support staff.

We all heard from Colin at the workshops about how he built his business by establishing a model for his dairy farms that is simple and repeatable. In order to experience the systems firsthand, we arranged to interview two of the contract milkers that run herds for the Armer Group. The interviews were done without Colin present as we wanted to hear and communicate how the contract milkers run their farms and how they see the Armer Group.

ALEX AND TRISHA VAN MARREN

Together they manage two farms milking 1800 cows in total. Three full time staff on the 1100 cow unit producing 307 000 kg milk solids and two and a half full time running the 700 cow unit producing 185 000kg milk solids. Alex has been working for the Armer Group for 8 years and confirms that he has been allowed to get on with running the farms within the simple framework that has been established on the farms.

As a contract milker Alex is responsible for all in shed, labour, tractor and bike costs and gets paid NZ1,15/kg Milk Solids delivered. Alex and Trisha are encouraged to invest off farm and do so. They plan to stay as contract milkers for the Armer group for many years to come.

The herds are mated from the 14th of October each year and actively use the Spring rotational planner to manage pastures. The 2nd in charge uses tail paint to pick cows and AI for 5 weeks. Alex does his own inseminations using Premier Sires from LIC. He aims to get a 95% submission rate in 4 weeks and an empty rate of between 9% and 11% by the end of December when the bulls are taken out.

Some quotes from Alex worth noting :-

"Colin allows me to do most things most of the time as I see fit as long as I produce the results, two things that are not negotiable are Body Condition Score and pasture cover"

"Colin is easily accessible, easy to talk to, reasonable and astute"

"Many dairymen in NZ do not know the grass based only system and they cloud their operations with bought in feed"

Pete Wichman and Ken Bartlett

PETE AND MICHELLE WICHMAN

They originate from Taranaki and joined the Armer group when the farms they are on were not developed yet and saw the developments as exciting and wanted to be part thereof. Pete and Michelle are contract milkers running two herds of 1100 cows each. During the breeding season Pete uses tail paint and picks his own cows and does the insemination, but not only on his own herds but on a total of four farms totaling 4000 cows. The maximum inseminations he does per day is 230.

Pete and Michelle aim to be successful contract milkers but maintain a good balance between the dairy operations they run and their family. They too make sure that they invest for themselves off farm.

When asked what makes their farms profitable the message was clear "There is an established simple grass based system that is repeatable and sustainable"

What were his comments about Colin's people management style? "Colin is unassuming, approachable, always available, decisive and direct. Most of all he is trustworthy"

The time spent with the two contract milkers were a real eye opener and we came away with a clear message. "A simple, grass based system that has a number of non-negotiables that are clear and concise which leads to a repeatable system, coupled with open lines of communication and a peoples based approach makes the Armer group the success it is". M&H

Ken Bartlett, Simon Alderson-Smith from Genimex and Colin Armer discuss the Swedes planted by helicopter on the steep slopes

Robyn Joubert

The Dairy Genomic Programme

The Dairy Genomic Programme (DGP) is a three-year, industry-driven project, supported by the Technology Innovation Agency (TIA) with the overall aim of aligning industry priorities with the best research practices to establish genomic selection in South African dairy cattle. The University of Pretoria, assisted by the MPO, is responsible for driving the DGP. Two years into the programme, the DGP has made significant progress towards meeting its objectives.

ADVANTAGES OF GENOMIC TECHNOLOGY

Genomic technology has introduced a host of new tools for the genetic improvement of livestock.

While genomic selection has been successfully implemented in dairy cattle in various developed countries around the world, this is only one of the benefits. Genomic information holds the key to providing genetic insight into many other traits that are important for sustainable, profitable dairy production. Genomic technology can help to improve the reliability of genetic merit predictions of potential breeding animals. Combining genomic information with accurate phenotypic data allows for more accurate, efficient animal selection, especially in young animals where very little information on their genetic potential is available. In addition, fertility, health, and other traits associated with longevity and efficiency are of the utmost importance.

DGP PROGRESS

The overall aim of the Dairy Genomic Programme (DGP) is to establish a national framework for the application of genomic information in South African dairy cattle.

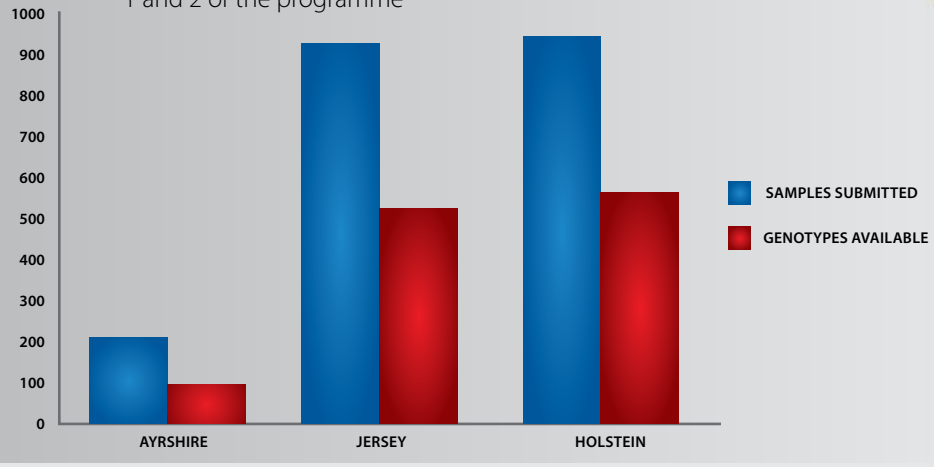
To date, over 2 000 hair and semen samples from Ayrshire, Jersey and Holstein cattle have been collected and submitted to the ARC Biotechnology Platform (ARCBTP) for DNA extraction and genotyping using the Illumina BovineSNP50 BeadChip. Almost 60% of these samples have been successfully genotyped. Another 500 animals will be genotyped during the final year of the programme.

DGP RESEARCH

The research objectives of the Dairy Genomic Programme include the following:

- Focus on traits of economic importance (e.g. disease related traits) for estimation of DGVs (direct genomic values) and GEBVs (genomically enhanced estimated breeding values).
- Investigate, validate and implement the available methods for estimation of GEBVs for South African dairy breeds.
- Research genomic technologies to be applied for the benefit of smaller dairy breeds.
- Investigate appropriate phenotypic recording for emerging farmers to enable them to benefit from genomic technology.

Figure 1 Hair and semen samples submitted by the DGP during years 1 and 2 of the programme



Joyce Voogt, International Technical Manager, LIC

Mating Length & Empty Rate

HOW SHORT IS TOO SHORT?

		MATING PERIOD AND EXPECTED EMPTY RATE								
6-week in-calf rate	% empty at 6 weeks	7	8	9	10	11	12	13	14	15
40	60	47	36	28	23	19	16	14	12	10
50	50	39	30	23	19	16	13	11	10	8
60	40	31	24	19	15	13	11	9	8	7
70	30	23	18	14	12	10	8	7	6	5
78	**22**	**17**	**13**	**10**	**8**	**7**	**6**	**5**	**5**	**5**

Adapted from the 'expected empty rate (%) given 6-week in-calf rate and length of mating' table – The InCalf Book (page 135)

DECIDING ON A MATING LENGTH

For block calving herds there are only 12 weeks between the planned start of calving and the next mating period.

Having all cows finish calving before mating commences becomes very important. Cows do have a natural calving spread of ± 10 days around their due date, so farmers may shorten their total mating period in an attempt to reduce the number of late calvers.

This comes at a price so requires careful thought. The shorter the mating period is, the higher the 3 and 6 week in-calf rates need to be for you to avoid an unexpectedly high empty rate!

TIPS:

- Understand your past calving pattern, submission rate, non-return rate and empty rate
- Be realistic- don't cut too short in a single year, or else budget for the higher empty rate
- Be proactive- make sure you hit first round submission and conception rate targets
- Monitor progress and be flexible – as you near the end of mating date reassess how many cows you are seeing bulling each week. Is it still the right decision? What will you do with the late calves? Are they still valuable? Are there a group of cows you'll continue to mate to AI and disregard the rest (e.g. good young cows)? Are there SGL options that could help?
- Spilt calving herds- may consider shortening one mating period and rolling cows over into the other. Some successful farms manage with 2x 6 week mating periods = 12 weeks per annum total mating.

BUT - Be careful not to roll cows over a second time, as you'll build up infertility in the herd

- Consider your feed supply and demand curves- it may suit to calve different sized groups in spring and autumn in which case you'll need to have a longer mating period for the larger group or the numbers could get out of balance. Seek professional advice from your farm consultant or vet. M&H

Disclaimer: Advice given is of a general nature only. Seek independent professional advice for your own farm situation.

Breeding for climate-friendly cows is possible

VIKINGGENETICS FOCUSES ON REDUCING METHANE EMISSIONS AT HERD LEVEL

In February 2018, three researchers, including one from VikingGenetics, were awarded the Innovation Fund Grand Solution Prize in Denmark. The award was for developing a way to use breeding to reduce cattle related methane emissions at herd level. This is one of the ways VikingGenetics is empowering efforts to breed more climate-friendly cows.

"Our most important discovery is that there is a genetic component to methane emissions which means this is heritable. As such, you can select animals with reduced methane emissions," says VikingGenetics project manager, Jan Lassen. Lassen, together with Peter Løvendahl of the Department of Molecular Biology and Genetics at Aarhus University, Denmark and Henrik Bjørn Nielsen of the Technical University of Denmark, received the Innovation Fund Grand Solution Prize from Søren Pind, Minister for Education and Research in Denmark.

The findings of the three researchers are highly relevant in the fight to curb global warming. Gaseous emissions from cows contain methane, a global warming gas. In terms of contributing to the greenhouse effect, methane is up to 23 times more potent than carbon dioxide (CO_2), according to the United Nations Intergovernmental Panel for Climate Change (IPCC).

As part of a four-year study, that included 2,500 cows, the researchers developed equipment to measure methane and CO_2 emissions from exhaling cows as they were being milked.

The researchers have managed to breed cows that reduce methane emission by 5%, which in Denmark alone, would ensure the equivalent of a 90,000 tonne reduction in CO_2 emissions per year. At the same time, they were able to reduce feed consumption by 1%.

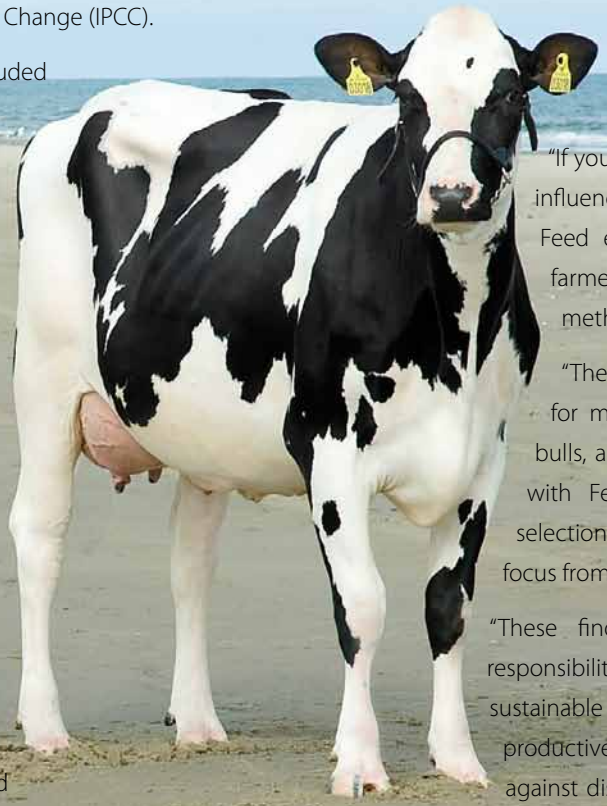
"These findings can help to design more climate-friendly cows. We analysed thousands of cow genes along with production figures and feed efficiency to select those cows with the most optimal inheritance," Lassen explains. The research mainly concerned the Holstein population, but Jersey and Red Dairy Cattle (RDC) were also included in close cooperation with VikingGenetics personnel in Finland and Sweden.

These studies are very important as VikingGenetics already exports genetics to 50 countries, while according to the IPCC, methane accounted for about 16% of global greenhouse gas emissions in 2015.

"We want to be part of the solution when it comes to combatting global warming. Climate change affects all of us, no matter where in the world we live and we have been breeding for climate-friendly cows for a long time," says Rex A. Clausager, CEO of VikingGenetics.

BREEDING FOR "GREEN COWS"

As methane emissions are heritable, selection for climate-friendly cows is possible. Lower methane emissions and feed efficiency are correlated.



"If you select for efficient cows, this will also influence gaseous emissions. By choosing Feed efficiency bulls from VikingGenetics, farmers will soon be able to select for lower methane emissions," Lassen explains.

"The next step is to have breeding values for methane emissions on VikingGenetics bulls, and we are working as fast as we can with Feed Efficiency. We know that this selection can be possible without diverting the focus from health and fertility traits," Lassen says.

"These findings confirm that we take our responsibilities very seriously in terms of our sustainable breeding goals. By focusing on productive, green cows with a natural defence against diseases in their genes, we enable milk to be produced with minimal use of antibiotics. And now with the added benefit of showing that these cows are also capable of reducing methane emissions," Clausager says.

Nicola Hemming, Reproduction Solutions Advisor, LIC

Comparing apples with elephants

– THE ISSUE WITH COMPARING EMPTY RATES

When comparing your herd's reproductive performance across years, or with your neighbour, you need to compare apples with apples. But when it comes to 'empty rate', this often isn't the case because it's not always calculated the same way on-farm.

LEVELLING THE PLAYING FIELD

Empty rate is usually the percentage of the herd that was diagnosed as 'empty' on the day of pregnancy testing. Depending on which cows are scanned on the day, your empty rate could look better than it actually is, leading to you to compare 'apples with elephants'.

Example

Farmer Joe and Jane compare their empty rates:

- Farmer Joe pregnancy tests his whole herd, and on the day of scanning his 'empty rate' is 15%
- Farmer Jane has been watching her herd leading up to scanning day. She knows that there are 30 cows that are not pregnant as she's seen them bulling. Jane knows she'll be culling all of her empties, so decides to help her cash flow by not paying to get those 30 cows pregnancy tested. On the day of scanning, her 'empty rate' is 13%.

Based on these results, it looks like farmer Jane has the better empty rate. But if those 30 empty cows she didn't scan were added to her empty rate, her empty rate would actually be 16%. This is why it's important to use an industry standard measure when comparing your results with your neighbours, or across years.

USE NOT-IN-CALF RATE

In New Zealand and Australia the industry standard measure used is not-in-calf rate (NICR) - the percentage of the herd that have not been recorded as 'pregnant'.

NICR calculations are based on the number of cows that calved that season and were still there at mating start date, rather than just the cows scanned on the day. This means everyone's results are based on the standardised group of cows, making it a level playing field for comparison.

However, when looking at NICR, farmers often comment, "That's not the number of empty cows I had!" And you're right, the empty rate may differ a little from NICR.

NICR is often higher than empty rate because it's not just the percent of the herd recorded as empty. Besides the cows recorded as empty, NICR also includes:

- Cows culled without a pregnancy test result
- Cows in the herd without a pregnancy test result, and
- Cow whose pregnancy status is recorded as 'doubtful'

From the scenario above, those empty cows that Jane didn't scan would be included in NICR as 'cows in the herd without a pregnancy test result', giving Jane an accurate reflection of her herd's performance.

MATING LENGTH MATTERS

Another important factor to keep in mind when comparing NICR is mating length.

Almost anyone can get a 6% NICR/empty rate if they mate for long enough. This is because, as mating length increases, in general, NICR decreases. Plus, the difference in NICR between a herd with a good vs. an average 6-week in-calf rate gets smaller the longer you mate for*.

NOT-IN-CALF RATE BY MATING LENGTH				
	10 weeks	11 weeks	12 weeks	13 weeks
Average herd	20%	18%	16%	15%
Top quartile herd	15%	13%	12%	12%
Difference	5%	5%	4%	3%

So when you're comparing your NICR to last year's result or your neighbours result, keep in mind mating length. For example, if your NICR is higher than last year's result, did you shorten mating length this year?

INDUSTRY STANDARDS ARE KEY

Based on your herd's reproduction results, you will make management decisions. Using an industry standard measure (e.g. not-in-calf rate) and understanding the factors that influence that measure (e.g. mating length) are the key to getting accurate results to base your management decisions on.

In other words, industry standards help you to keep your apples separate from your elephants!

Once you know how you are tracking, you can seek professional advice to put an improvement plan in place for the coming mating season, if necessary.

**These figures are from the analysis of the 2016 spring mating results for 3,852 New Zealand herds. Herds were included in the analysis if they were spring calving seasonal herds that had a Detailed InCalf Fertility Focus Report.*

Disclaimer: The reproduction measures analysed were calculated from data and information entered by herd owners and collected by LIC & DairyNZ. Accuracy of the results reported here is subject to the accuracy of the data entered. M&H

Genimex Deense Toer

UITERS GEWILD EN BAIE SUKSESVOL!

Ons het in Oktober 2017 weer'n groep suiwel boere na Denemarke geneem. Dit was 'n studietoer met die doel om meer te leer oor hul databasis en genetika. So ook die stelsel wat hulle geimplementeer het om hulle die leiers te maak wat veral die gesondheidseienskappe aan betref. Ons het 15 Holstein en Jersey kuddes oor die 5 dae besoek. Op die eerste dag het ons ook besoek afgelê by die hoofkantoor van Viking Genetics. Hierdie is ook 'n semen produksie eenheid met 'n laborotorium waar "sexed semen" geproduseer word. Die bulle VJ Huzar, VJ Quintana, VH Brook en VH Booth is aan ons gewys waarna die groep kon luister na 'n voorlegging oor die onderskeie telingsprogramme van die Holstein en Jersey rasse.

JERSEY KUDDES

Op die eerste dag het ons 2 Jersey kuddes besoek met die kudde van Bent en Lars Olesen die hoogtepunt. Dit is op so 'n toer baie gou duidelik waarom die Dene bekend is vir akkurate data en totale deursigtigheid. Op elke plaas kry elkeen 'n volledige stel rekords met elke koei se volledige rekord sowel as 'n opsomming van die totale kuddesamestelling en produksie rekord. Hier volg 'n opsomming van Bent en Lars se kudde prestasie.

387 Koeie in melk

Gemiddelde prod: 7888 kg melk 6.13 % BV 4.14% PROT

Somaties gemid: 129 000

Dis 'n uitstekende kudde met veral baie goeie uiers. Hier het ons verskeie Hilario dogters in hul 1 ste laktasie gesien en was voorwaar indrukwekkend.

Die Hilario dogters by Bent en Lars Olesen

Bent en Lars hier in gesprek met Hendre Terblanche en Jaco Scholtz van George in die Suid Kaap.

Op die 2 de dag het ons die kudde van Svend Otto Sogaard besoek. Hier het ons baie goeie Husky en Hihl dogters gesien maar dit was ook veral sy senior koeie wat ons baie beindruk het.

450 Koeie in melk

7357 kg melk 5.73% BV 3.96% PROT

Somaties gemid.: 250 000

'n Lirsk dogter uit 'n Impuls met 'n gemid.prod oor die leeftyd van 6. 7 jaar van: 8043 kg melk 5.91 % BV 4.11% PROT

n VJ Indici dogter met gemid prod. oor 4 jaar van : 8348 kg melk 5.81% BV 4.05% PROT

Die kudde van Martin Bruun, Engmark was baie interressant en was een van die kuddes wat organies bestuur word. Baie hoë produksies word behaal ten spyte van beperkings op keuse van voeding ens. Ons het hier die eerstes van die Rodme dogters in melk gesien asook verskeie uitstekende Hilarios en Husky 's. Sy 215 Jerseys in melk produseer gemiddeld **7592 kg melk 5.75% BV 4,16% PROT**. Met 'n roomysfabriek op die plaas voeg hulle verder waarde toe – dit word veral in Kopenhagen bemark.

Die kudde van Hans Holmo was net so indrukwekkend. Hierdie groot kudde van meer as **1000 Jerseys** het uitstekende produksies. **8845 kg melk 5.85% BV 4.14% PROT**. Hier het ons ook die Moeder gesien van VJ Haley met die volgende produksies; **9200 kg melk 6.14% BV 4.01% PROT**. Haley is tans baie gewild in Suid Afrika en het sopas sy posisie op die toplys versterk.

Hans Christian Halmo

By die kudde van Palle Hansen het ons die Moeder van **VJ Quintana** gesien. Sy is 'n Zuma dogter met die ongelooflike produksie van **11694 kg melk 5.64% BV 4.13 % PROT**. Quintana is tans Genimex se gewildste bul en is die bul met die hoogste **NTM**. Die kudde van Palle se produksie is as volg:

230 KOEIE : 8565 kg melk 5.90 % BV 4.21% PROT

Peter Larsen, Hoofbestuurder van Danish Jerseys by Viking, het hier aan die hand van 2 pragtige Huzar dogters, presies vir ons verduidelik hoe hulle koeie beoordeel en klassifiseer.

Peter Larsen van Viking Genetics praat oor die klassifikasie van koeie

Ons laaste kudde was Soren Madsen se 650 Jerseys op 'n seisoenale stelsel. Sy produksie van **8687 kg melk met 5.52% BV EN 4.06% PROT** is 'n bewys dat hy beslis suksesvol is. 'n Indrukwekkende gemid. dae oop van 79 is 'n verdere veertjie in die hoed vir die uitstekende bestuurder.

Jong versies by Soren Madsen.

Die toerlede was geweldig beindruk met die Deense Jerseys en die produksies en groot sterk koeie met uiters goeie uiers was die uitstaande kenmerke. Viking Jerseys weet presies wat hul teeldoelwitte is. Eienskappe van ekonomiese belang word geidentifiseer en vervat in 'n doelwit wat dan deur almal prakties nagestreef word.

Sien bladsy 27 vir VikingGenetics se doelwitte vir die jaar 2025.

HOLSTEIN KUDDES

Deense Holsteins bied 'n baie goeie alternatief vir telers wat na uitkruis stambome kyk en wat veral die gesondheidseienskappe insluit in hul teeldoelwit. Die Deense Holstein koei is beslis kleiner en ligter as die Noord Amerikaanse Holsteins en het definitief hoër genetiese vlakke vir vastestowwe. Die inligtings stelsels soos robotte sowel as akkurate data verkry van veeartse en "hoof trimmers", is die hoofrede waarom die Deense Holstein ver voor hul eweknieë is.

Ons het uitstekende Holsteins gesien en sommer op die eerste plaas van **Per Warming** het ons Miracle dogters gesien wat nie net kliener koeie was nie maar ook met baie goeie uiers. VH Miracle is veral ook bekend vir sy goeie ontledings vir uiergesondheid en vrugbaarheid. Per melk 270 koeie met die volgende produksies: **11364 4.05% BV 3.38% PROT Somaties gemiddeld 176 000**.

Op die 1 ste plaas van Per Warming. Op elke plaas is ons voorsien 'n oorpak en plastiese skoene vir die voorkoming van verspreiding van siektes

Hans Christian Halmo VH Miracle dogtrers by Per Warming

By **Leif Jensen van Garsted Jojgaard** het ons 'n 575 koei kudde gesien met die uitstekende rekord van **13186 kg melk 3.73% BV 3.415 PROT**. Die koeie word met 8 robotte gemelk. Hier het ons baie goeie dogters van die bul VH Booth gesien. Hy is 'n beproefde bul met veral baie hoë produksies, hy teel gemiddelde grootte koeie met baie fuksionele uiers.

Hans gebruik robotte om die 500 Holsteins te melk

Die volgende kudde was die van **Hans Skovgaard – 500 Holsteins** met die volgende produksies : **11767 KG MELK 3.93% BV 3.45% PROT**. Ons het hier verskeie hoë produksie **Miracle** en **Odense** dogters gesien. Die hoogste produksies was egter 'n **D Sol** dogter met **16000 kg** melk! Dit was duidelik dat die kudde baie goed bestuur word deur Hans.

Dit was dan ook op die plaas waar ons 'n baie indrukwekkende plaasstal besoek het. Hans en sy vrou verwerk hulle vleis op die plaas. Bees en varkvleis is van baie hoë gehalte asook ander produkte soos kaas en olywe, word van die plaas af verkoop. Hulle het ook die voordeel dat hulle naby aan Arhus is, wat 'n redelike groot stad is.

Ettiene Zeeman van Swellendam in die " farmshop" waar hulle vleisprodukte verkoop.

Ons het uitstekende Holstein kuddes gesien. Dit is duidelik dat hulle gefokus is op hul teeldoelwit nl NTM. Dit is hoofsaaklik gebaseer op produksie (Melk BV en Prot) uiergesondheid, hoefgesondheid en vrugbaarheid. Geen BST word in Denemarke toegelaat nie en daar bestaan geen agentskap vir die produk nie. M&H

Joyce Voogt, International Technical Manager, LIC

THREE QUICK QUESTIONS

TO CONSIDER BEFORE YOU STOP AI

AI mating is a busy time on farm, but it speeds by quickly and before you know it it's coming to an end. The natural mating period follows on most farms, with service bulls ready and waiting.

As the season unfolds, your farm's plan may need adjusting. Mating is no different.

Before you decide to stop AI mating, consider these three quick questions.

1. Am I likely to get enough replacement heifer calves next year?
2. Do I have enough service bulls on hand to meet demand and minimise my herd's final empty rate?
3. Do I have synchrony returns to consider in my plan?

You can use the guidelines below to estimate your numbers using your herd information for the mating season to date.

If things aren't quite panning out as you'd envisaged you can make adjustments to your plan such as extending AI mating to:

- generate more replacements,
- reduce bull-power requirements,
- cover returns to synchronies or
- compact next year's calving.

ESTIMATING HEIFER REPLACEMENT NUMBERS

Although the numbers do vary between seasons and herds, as a rule of thumb for farms with an average 50% conception rate we estimate that it takes close to five (5) inseminations (insems) to breed each replacement heifer and have her complete a first lactation in the herd. Talk to your vet or advisor about the number that is best for you to use.

Calculation:

Total replacement semen insems used divided by 5 = estimated expected heifers in the herd.

Note: The 5 insems figure allows for losses between the point of conception and the end of the first lactation as well as for some discretionary culling for reasons other than reproductive failure of cows that may be pregnant to AI.

ESTIMATING BULL POWER REQUIREMENTS

Use the steps below to estimate how many bulls could be required on your farm, inserting your own figures for herd size, inseminations and conception rate.

(If you don't know your herd's conception rate check with your rural professional which figure you should use. The New Zealand national average is around 52%).

1. Calculate your expected number of pregnant cows:

   Total insems X conception rate (52% is national average) = estimated pregnancies.
2. Subtract the pregnant cows from the total herd size to get non-pregnant cows.
3. Divide the number of non-pregnant cows by 15 to get the estimated number of bulls required on farm to meet natural mating period requirements at the ratios explained in the assumptions below.

For example, a 1000 cow herd that has had 1200 matings:

1200 x 50% = 600 estimated cows pregnant

1000 – 600 = 400 estimated cows non-pregnant

400 / 15 =27 estimated bulls required on farm (without spares).

Assumptions:

New Zealand bull power recommendations allow for:

- one healthy fertile two-year-old bull per 30 non-pregnant cows, and
- two teams of bulls, rotated every 24 to 48 hours.

So that's one bull per 15 non-pregnant cows on farm. And remember, you'll need more bull power in the field if you have days with returns to synchrony treatments.

For more information about your local recommendations on bull numbers and management talk to your vet.

Contact your local LIC sales representative to discuss AI options that will help you reach your goals.

Disclaimer: Any advice, tasks or suggestions given in this article ("advice") are of a general nature only and may not be suitable for your individual herd requirements. We recommend that you discuss your individual herd requirements with your veterinary and farm advisory professionals. Any results from the advice given on this website may vary and LIC gives no warranty that the intended outcome will be achieved. M&H

Amadlelo Bestuurders

TOER NIEU-SEELAND 21 JUNIE - 1 JULIE

Die derde besoek aan Nieu-Seeland met Senior Bestuurders van Amadlelo het bestaan uit Peet Erasmus van Ncora, Abulele Mtambeka van Keiskammahoek, Shawn Buckley en myself van Genimex.

Ons besoek begin op Vrydag 23 Junie in die Canterbury distrik naby Christchurch in die Suid-Eiland. Ons maak sommer die eerste dag deeglik kennis met NS se weer. Die temperatuur bly rondom 5 grade die hele dag. Paul Whittaker is eerste op die lys en dis ook waar Clifford van Middledrift besig is met sy jaar internskap as deel van Genimex en LIC se ooreenkoms met Amadlelo. Hier word 900 oorwegend Fries koeie gemelk op 240ha. Oorwintering geskied op 'n ander plaas op hoofsaaklik "fodder beet".

Ons almal vind dit baie interessant dat die koeie die hele plant ten volle benut.

Die modderige toestande waarin die koeie moet oornag blyk tog 'n probleem te wees aangesien heelwat koeie vir mankheid behandel moet word. Die plaas is streng seisoenaal en koeie kalf vanaf 29 Julie tot 29 Augustus.

Ons volgende besoek was aan Graham Wells wat 850 koeie op 205ha melk. Die kudde is ook oorwegend Friese. 'n Kruis koei met die samestelling van F10/J6 of F12/J4 blyk ideaal te wees vir hulle toestande in die Suid-Eiland. Die kudde is ook streng seisoenaal. Ons was veral beindruk deur die kwaliteit van die uniforme groep verse wat ons hier gesien het.

Abu druk in gesprek met Graham oor die grootmaak van verse.

Saterdag, 24 Junie besoek ons 2 plase in die Marlborough area van Canterbury distrik wat deel is van die Beechbank Dairies Limited groep. Jaarlikse reënval in die area is ongeveer 620mm per jaar. Op die eerste plaas word 545 koeie seisoenaal gemelk op 140ha wat neerkom op ongeveer 4 koeie per hektaar. Die kudde is ook oorwegend Fries kruise met gemiddelde gewig van 500kg.

Die totale arbeidsmag op die plaas is 3 persone. Natuurlik staan die Kiwis verwonderd oor Amadlelo se arbeidsmag van tot 30 per plaas.

Op die volgende plaas word 521 kruiskoeie op 141ha ook deur slegs 3 persone gemelk. Melkproduksie is 5 656kg per koei met 512kg vastestowwe per jaar. Dit plaas hulle in die top 15%. Die vriendelikheid en openheid van die mense verbaas ons wanneer volledige finansiële inligting aan ons voorsien word. Ten spyte van die lae melkprys wat hulle op daardie stadium ondervind, word daar steeds wins gemaak.

Die doel van ons besoek was natuurlik ook om die SIDE (South Island Dairy Event) konferensie op die kampus van Lincoln Universiteit by te woon. Dit was die 20ste jaar wat die konferensie aangebied word. Ek is van mening dat die konferensie by verre beter gestruktureerd aangebied word as SA se Large Herds konferensie. Elke dag word afgeskop met 'n gesamentlike byeenkoms waartydens 'n gasspreker optree gevolg deur twee oggend sessies met ses verskillende lesings deur kundiges in die bedryf of privaat sektor. Jy het dan 'n keuse om twee van die aanbiedinge by te woon.

Die middae word gewy aan werksessies waartydens die aanbiedinge bespreek en vrae beantwoord word. 'n Wye verskeidenheid van onderwerpe word gedek en heelwat is myns insiens van praktiese waarde vir enige melkboer of bestuurder.

Die omgewingsbewustes maak tans heelwat geraas in NS oor die besoedeling van waterbronne en riviere. Nuwe omgewingsbestuurswette is reeds ingestel of in wording. Gevolglik het heelwat bespreking plaas gevind oor die loging van stikstof en fosfate..

Ek is van mening dat die bywoning van die konferensie definitief die moeite werd is om op hoogte te bly van aktuele sake asook nuwe verwikkelinge en tegnologie in die melkbedryf.

Ons het na afloop van die konferensie vertrek na Hamilton in Noord-Eiland waar ons 'n dag by LIC hoofkantoor deur gebring het.

Van links na regs: Shawn Buckley, Peet Erasmus, Abulele Mtambeka & Hendrik Bezuidenhout

Die besoek aan die sentrum en laboratorium waar die bulle getap word en waarvan tot 140 000 strooitjies per dag tydens die piekseisoen uitgestuur word, is altyd 'n hoogtepunt.

Die voorlegging oor die NS se melkbedryf was baie insiggewend. In 'n populasie van bykans 5 miljoen koeie is feitlik 70% op melkaantekening. Die NS boere het toegang tot 'n wye verskeidenheid ondersteunende dienste en betroubare data en miljoene NS dollars word in navorsing belê.

'n Duidelike bewys hiervan is die genetiese vordering wat gemaak is oor die laaste 20 jaar waar die gemiddelde koei se vastestof produksie gestyg het van 271kg tot 372kg.

Kruisteling bly populêr en LIC se aanbieding van KIWICROSS bulle groei steeds. Genimex is uiteindelik in die posisie om ook die genetika aan die Suid-Afrikaanse mark te verskaf.

'n Lesing oor die belangrikheid van reproduksie as drywer van winsgewendheid en produktiwiteit het ook groot byval by die Amadlelo bestuurders gevind.

Die toenemende gebruik van SGL bulle (wat dragtigheidsduur tot 11 dae kan verkort) was veral interessant. Die genetika stel boere in staat om hulle kalwingsperiode meer kompak te maak. Suiwel of Hereford bulle met die eienskap is beskikbaar om aan die einde van die teelseisoen te gebruik. Genimex het reeds in 2017 twee SGL bulle begin bemark.

LIC het ook 'n ooreenkoms met 'n uitvoer maatskappy aangegaan om WAGYU kruiskalwers teen 'n premie by melkboere aan te koop. LIC beoog om die maatskappy in 2018 met meer as 20 000 WAGYU diere te voorsien vir prosessering en uitvoer. Die verwagting is dat die gebruik van WAGYU semen op die onderste 10 tot 20% indeks koeie gaan toeneem.

Die laaste 5 jaar word daar ook navorsing gedoen oor hitteweerstand- biedendheid en word daar gepoog om die geen in die SENEPOL ras te identifiseer wat hiervoor verantwoordelik is. Daar word beoog om in 2019 reeds semen beskikbaar te stel van bulle(25% Senepol en 75% melkras) wat na verwagting 10 tot 15% meer melk kan produseer in areas waar die omgewingstemperatuur bo 25/26 grade Celsius is. Dit sal van groot waarde vir sub-tropiese en tropiese gebiede wees. Nog 'n voordeel is dat SENEPOL bulle poenskoppe teel.

Die toer is afgesluit met 'n besoek aan die Morrinsville omgewing saam met Ken Bartlett van Farmwise.

Dit is opmerklik dat die F8J8 kruising meer gewild is in Noord-Eiland. Opvallend was ook die mate waartoe kampe bewei word en vinnige herstel wat plaasvind danksy die hoë reënval.

Ek glo dat die besoek aan NS vir die senior Amadlelo bestuurders van groot waarde was. Hulle het die volgende opmerkings gemaak na afloop van die toer:

Vervangingsverse in NS is van uitstekende gehalte. Ons moet meer aandag skenk aan die grootmaak van ons verse. Hou slegs genoeg vir vervanging en groei hulle behoorlik uit. Verse moet almal gedek word ten minste drie weke voor die koeie al moet dit sinkronisasie behels.

DOELWITTE VIR DIE KI SEISOEN:

85% submissie op 3 weke

65% konsepsie met eerste silkus

Minder as 8% oop koeie

Oorweeg gebruik van plakkers en stert verf in die laaste dae van KI weens verminderde aktiwiteit onder koeie

SGL bulle is goeie idee vir gebruik aan einde van KI periode

Grootste genetiese vordering kan gemaak word deur swakste 25% koeie uit te skot.

Ons moet herbesin oor wat ons sien as kwaliteit en kwantiteit weiding om melkproduksie te verhoog.

Doen grondontledings en vul belangrike tekorte aan voor weidings gevestig word. Dit maak nie sin om hier suinig te wil wees nie. Dit sal wel dividende oplewer in terme van verhoogde produksie.

Om produktiwiteit te verhoog moet daar na 'n nuwe strategie rondom arbeidsbestuur gekyk te word.

Graag bedank ons LIC en GENIMEX wat die toer moontlik gemaak het. M&H

Maxime Sergent, Area Sales Manager IMV

ALPHAVISION

EYES FOR WHERE YOU CAN'T SEE!

Breeding diagnostic and easy and safe. AI thanks to new technology

For decades AI has been done blindly trough rectal palpation. The act of AI is paramount to a herd's rentability as it has direct impact on fertility.

Quite often AI is performed with little attention to the cow's breeding soundness. It's even worse when we consider the fitness of the reproductive tract, basically only important Metritis are being researched.

AlphaVision enables breeders to check the breeding soundness of the cow prior to AI. Imperfectly involuted cervixes, sub-clinical metritis, etc. This gives more information on the herd's health and helps making the right breeding decision. A classic example is to favour easy-calving bulls on cows that have a difficult cervix. On the opposite side of the spectrum, an elite cow on which there is all greenlights (clear heat mucus, no dirt, no pus, tone cervix) then it may be the occasion to thaw that elite straw…

On the act of AI itself, the AlphaVision is a game changer to anyone who suffers on AI. We are unequally gifted in how easy to us it is to AI. With this tool people who usually struggle to AI manage to go through the cervix is done very rapidly. Success of AI does not depend on one's ability to perform it anymore. Location of the cervix is instantaneous and going through the first ring is done within 5 seconds. Going through completely and securing the sheath at the uterine body is usually done within 30 seconds. Reducing the time of AI is also beneficial to the individual who performs AI: less arm strain, less stress to fail the AI and end-up delivering semen before the cervix because the clock is ticking…

Because the AlphaVision is supported by an Android phone, you can record all you breeding history, including cow's identification, straw identification and most importantly the reproductive tract fitness.

Genimex, as always, has been an early adopter of that novel technology and has been one of the first breeding company's to invest is this new technology. For more information on the AlphaVision, please visit https://www.alphavision-imv.com/en/ M&H

"HENRYETTA"

THE ARTIFICIAL COW IN USE BY GENIMEX AGENTS

VikingDefence™

SUPPORTS REDUCTION OF ANTIBIOTICS IN DAIRY CATTLE BREEDING

VikingDefence™ reduces the risk of incidences of clinical diseases treated with antibiotics such as mastitis and digital dermatitis, among others, by selecting directly for actual diseases registered under the indexes: General Health, Hoof Health, and Udder Health.

VikingGenetics is launching VikingDefence™ as our solution to reduce the use of antibiotics in the dairy cattle industry; in times when we are facing an increased global concern about the use of antibiotics in animals and the increase of antibiotic-resistant infections in humans.

"Overuse of antibiotics on animals create resistant bacteria. These bacteria can spread between animals and from animals to humans. At VikingGenetics, we are conscious of the problem, and we have a long experience in breeding for healthy cows. Therefore, we have the knowledge that backs up VikingDefence™, as a part of our reliable breeding program which farmers' trust", CEO of VikingGenetics, Rex A. Clausager, states.

In the Nordic countries, we have a central database where farmers (under supervision of veterinarians), veterinarians and hoof trimmers record all clinical diseases on each and every single cow. Then, the NAV (Nordic Cattle Genetic Evaluation) is evaluating, investigating and following genetic trends to form the best and most reliable breeding values. This valuable information is the foundation of VikingDefence™ to identify the sires with the best genetic potential to transmit resistance to reproductive and metabolic diseases as well as mastitis and hoof disorders.

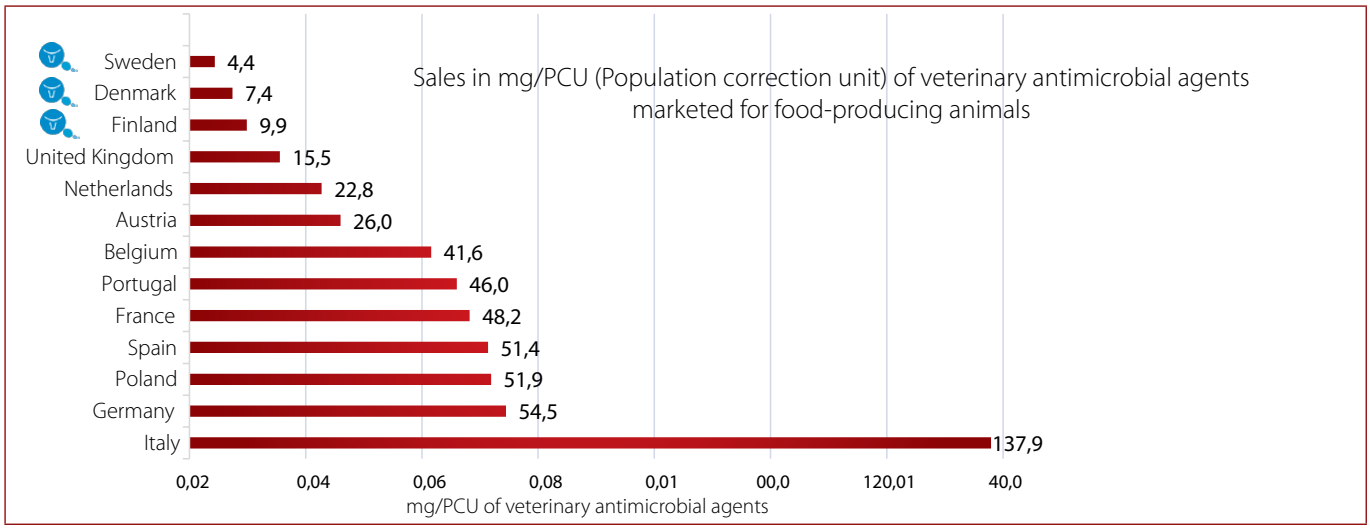
"With the lowest use of antibiotics in the world, and the highest reliable breeding program, VikingDefence™ is a trustful choice, regardless of the farmers' production system," Clausager adds.

The Nordic tradition in breeding for healthy cows is reflected in the latest report from the European Medicines Agency (EMA), from 2016: "Sales of veterinary antimicrobial agents in 29 European countries in 2014". EMA is a decentralized body of the European Union with primary responsibility for the protection and promotion of public and animal health. According to this agency, Sweden, Finland and Denmark are the EU member states with the lowest use of antibiotics in livestock, with an outstanding leading position.

The graphic on next page explains how the amounts of veterinary antimicrobial agents sold in the different countries are linked, among others, to the animal demographics in each country. Population correction unit (PCU) is the term used as estimate of animal population in individual countries. In other words, it is animal biomass estimated based on number of animals. 1 PCU equals 1 kg of living animal weight.

All figures are given in milligram (mg) of veterinary antimicrobials purchased for every kilogram (kg) of livestock biomass. That way it is possible to compare the use of antibiotics across different countries.

Graph: *Sales in mg/PCU (Population correction unit) of veterinary antimicrobial agents marketed for food-producing animals by country in 2014. The graph includes the EU members states that have > 200,000 tones PCU for Cattle. Sales in mg/PCU is weighted according to the proportion of cattle among all food-producing animals in each country.*



Source: Adapted from the report by European Medicines Agency, European Surveillance of Veterinary Antimicrobial Consumption, 2016. 'Sales of veterinary antimicrobial agents in 29 European countries in 2014'. (EMA/61769/2016).

The usage of antibiotic treatments in cows includes therapeutic treatment (when ill), treatment of a batch of animals when at least one is diagnosed as sick and for some countries within the EU and as in the United States, also as a preventive treatment against diseases. There is also the use of sub-therapeutic doses in animal feed and water to promote growth and improve feed efficiency. This practice has been banned in Europe since 2006.

"Because we have had strict veterinary regulations when it comes to the use of antibiotics, we needed to get around the use of antibiotics and this is how the 40 year-long tradition of breeding for health started", Camilla Rosman, Marketing Manager at VikingGenetics explains. "As a result, our cows need less antibiotics, because they have a natural defence against diseases in their genes, and with the launch of VikingDefence™ we are practically exporting our excellence", she says.

"Approximately 90 % of our dairy herds in the Nordic countries deliver data on treatments directly into the cattle database, as it is seen as a natural management tool. This means that 90 % of our dairy cows are included in the evaluation of health traits, which is amazing and something we are very proud of. This ensure a very high reliability level on the health traits" Lars Nielsen, Head of Breeding at VikingGenetics, states.

In modern dairy cattle operations around the world, mastitis is one of the most frequent infectious diseases, and accounts for most of the doses of antibiotics given to dairy cows.

VikingDefence™ reduces the risk of incidences of clinical diseases such as mastitis and digital dermatitis, among others. By selecting directly for actual diseases registered under the indexes: General Health, Hoof Health, and Udder Health, the dairymen make breeding far more successful than only relying on correlated measurements such as somatic cell count, feet & legs or immunity.

"For instance, we register clinical diseases while many countries rely on Somatic Cell Score (SCS) as an indicator to mastitis. We know it's better to go straight to the core. The correlation between SCS and mastitis is only 0,6; so you do not necessarily reduce mastitis by breeding for lower Somatic Cell Score", Nielsen explains.

"Like all the other VikingGenetics tools and solutions, VikingDefence™ is focusing on high NTM (Nordic Total Merit) sires that accumulate the desired genetic progress as a permanent solution," CEO of VikingGenetics, Rex A. Clausager emphasizes. M&H

Here you can see the different diseases that are registered under VikingDefence™.

HOOF HEALTH INDEX	UDDER HEALTH INDEX	GENERAL HEALTH INDEX
Sole ulcer	Mastitis	Early reproductive disorders such as retained placenta and Hormonal & infectious reproductive disorders
Sole hemorrhage	Cell count	Late reproductive disorders such as Hormonal & infective reproductive disorders
Heel horn erosion	Udder conformation	Metabolic diseases as Milk Fever and feed related disorders
Digital dermatitis + interdigital dermatitis		Ketosis
Verrucose dermatitis + interdigital hyperplasia		Feet and Leg problems
Double sole + white line separation		
Cork screw claw		

Ken Bartlett, FarmWise Consultant, LIC

AMADLELO

AN OVERVIEW OF DEVELOPMENTS AND PROGRESS

On my last visit to South Africa [Monday 28th May to 2nd June] I visited Amadlelo Herds. Most of these herds had changed to a single calving in the spring. Previously they were calving in spring and autumn.

As we are changing a biological system there is a financial cost to this. This can be due to:

1. Having to dry off early cows that calved in the previous calving period. For example cows that calved in November may need to be dried off in April –May to ensure they reach their body condition target [BCS] for calving in late June – July the aim of spring calving is to have a compact calving in 10-12 weeks to ensure that the maximum number of cows are calved to take advantage of Spring growth.
2. Holding Autumn heifers over and mating them for spring calving.

So these are two costs that have to be taken into consideration when split calving herds change to spring calving.

All the Amadlelo herds had concentrated calving for the spring and achieving this was a credit to the managers and their team at calving. With Spring Calving there are three non-negotiable factors these are:

1. Cow Condition at calving.
2. Pasture cover at drying off.

Heifers mated at the correct body weight [60% of the mature cows body weight] use scales to weight them.

Let's look at BCS

Target is 3.25-3.5 BCS at calving

The reason this is important:

BCS at calving	42 day Pregnancy Rate
2.50	50%
2.75 3.0	75%
3.25+	63%

SUBMISSION RATE

BCS at Calving	Calving to first Service
2.50	67 days
2.75	62 days
3.25+	57 days

PRODUCTION

For cows calving at 0,5 BCS lower than target the loss of production is about 130 litres of milk.

Let's now look at having the right pasture cover at calving. In most areas we need an average pasture cover of between 2,200-2, 300 Kg DM /ha below this cover it is hard to ensure that adequate pasture can be fed to all spring cows without feeding expensive supplements [Pasture is the cheapest feed] Cross bred cows [450 kg] can produce 20 litres of milk on high quality pasture.

Let's now look at heifers mated at the right body weight ensures that 75% of your heifers will calve by week 3 and 92% by week 6 of calving in the herd.

OTHER FACTORS DISCUSSED AT THESE DAYS WERE

1. Due to the falling milk price it is important to ensure that all farms ensure that they get the bonuses for low Somatic Cell Counts [SCC]. High SCC milk means that the bonus is lost plus loss of production due to high SCC. This is a 2.1% reduction in milk yield per doubling of individual cow SCC above 100,000 cells.

At	100,000 cells	Approximately 20% of the herd has subclinical mastitis
	200,000 cells	30%
	300,000 cells	36%
	400,000 cells	40%

2. To ensure that we get the milk quality bonus by having a clean plant. (M&H)

Peet Erasmus, Zikhona Rwali (junior manageress Ncora 2), Jeff Every, Ken Bartlett and Freddy Matjila (junior manager Ncora dairy 2)

"The programme is of huge value to us and to transformation in South Africa. It is an eye opener to our political principles and our black communities. Our young managers come back having had to fend for themselves and is of inestimable value to character building allowing them to slot into positions of greater responsibility on return. One of our challenges is to fast track growth and development and this programme is proving key to that." - Jeff Every

PASTURES FROM SPACE™

SATELLITE TECHNOLOGY SIGNALS GAME CHANGER FOR KIWI FARMERS

MEDIA RELEASE - Livestock Improvement Corporation (LIC) announce the launch of an innovative satellite technology called SPACE (Satellite Pasture and Cover Evaluation).

SPACE uses satellite images to measure pasture, sending detailed reports directly to farmers by email. This innovative technique has the ability to save farmers several hours a week by replacing the current way of measuring, which is either walking the farm or towing instruments behind a vehicle.

The technology hasn't previously been commercially viable in New Zealand due to cloud coverage, but LIC's satellite provider takes daily images to counter the cloud cover problem.

LIC chief executive Wayne McNee says that the project is part of LIC's ongoing commitment to developing products and services that improve productivity and decision making for farmers.

"The SPACE service provides a game-changing opportunity for farmers to gain an objective assessment of pasture cover which will result in more informed decision making around grazing, fertiliser and overall feed management.

"Satellites that pass over daily give us the best chance to provide our farmers a clear image once a week, which is aligned to best practice for pasture measurement," says Wayne McNee.

The satellites will pass over New Zealand daily and when a clear image is taken, a detailed pasture report is sent to the farmer within 24 hours. For LIC customers who also use MINDA Land & Feed, the pasture cover data is uploaded automatically to the web-based system.

As well as saving farmers' time, SPACE offers a truly objective assessment of pasture cover. Utilising the satellite's sensors, measurements aren't subject to any human bias.

The report creates a feed wedge, ranking paddocks in relation to pasture availability, and includes an image of the farm showing pasture variation by colour and estimated pasture cover for each paddock.

Ron Pellow, executive director of South Island Dairying Development Centre, which has a farm in the satellite trial, says the real opportunity for farmers is to know when pasture supply is going up or down, and to respond accordingly then and there, rather than two weeks later.

"We know there's a 25 per cent difference in milk production between the best farmers and the average, and most of that is due to pasture management. SPACE will provide consistent, frequent data that can help significantly lift milk production from pasture. It could be phenomenal for New Zealand.

"The technology will also help reduce our environmental footprint as farmers will manage pasture better and therefore maintain production with less need for imported feed," says Ron Pellow.

Initially SPACE will be available to farmers in Canterbury who are located within two 1000 sq. km areas from December 2017.

The plan is to roll it out nationally as soon as possible. M&H

Non-return rate after 56 days vs. Conception rate

Non-return rate after 56 days (NRR 56)

% of inseminations that were not followed by a return to heat within 56 days

$$NRR56 = \frac{\text{\# inseminations without detectable heat within 56 days}}{\text{total \# inseminations}} * 100\%$$

Example:
120 inseminations in total, 75 heifers/cows didn't return to heat.

NRR 56=(75/120)*100=62,5

Preferred use in Europe

Always higher than CR

Advantages:
Available quicker than CR

Disadvantages:
It is just a prediction how many pregnancies you can expect and does not take into account mistakes in pregnancy detection or early embryonic deaths

Conception rate (CR)

% of inseminations that resulted in a confirmed pregnancy

$$CR = \frac{\text{\# confirmed pregnancies}}{\text{total \# inseminations}} * 100\%$$

Example:
120 inseminations in total, 64 heifers/cows confirmed pregnant.

CR =(64/120)*100=53,3

Preferred use in USA, Canada and South America

Always lower than NRR 56

Advantages:
Gives more precise indication of expected pregnancies

Disadvantages:
Take longer time to get results

VIKINGGENETICS®
Breeding for what truly matters

BREEDING FOR WHAT TRULY MATTERS

SELECT THE BEST FEMALES WITH GENVIKTEST FROM VIKINGGENETICS

GenVik genomic test is the perfect tool to help you select the best heifers and cows in your herd to secure your success and only breed from the most healthy and productive cows for the next generation.

It will give you reliable breeding values for all profit making traits including the unique Nordic health traits like hoof health, mastitis resistance, fertility and other health traits for your Holstein and Jersey cows.

DNA samples in the form of blood are collected using a simple FTA card and Lancet. It is recommended that the blood sample is collected from the ear and please make sure that a Lancet is only used once to avoid cross contamination and transfer of disease.

The blood samples together with the list of animals are sent to VikingGenetics and then onto GenoSkan Laboratory where the DNA is extracted. The genotype is sent to NAV (Nordic Animal Evaluation Unit) where the GEBV'S are calculated and sent to the breeders via VikingGenetics and Genimex.

All animals are tested on a customized 10K VG chip.

Please contact your sales agent or the Genimex office for more information and pricing.

GENVIK®

Bent Olesen

ELECTED CHAIRMAN OF VIKING JERSEY SOCIETY

Bent Olesen and his brother Lars Olesen

6167

The cow, no. 6167, Sire by VJ Husky, is in her 2nd lactation.

She has an annual average of 9233 kg milk with 6.03 fat and 4.12 protein – 937 kg F+P

1st 305 day was 7938 kg milk with 5.96 fat and 4.05 protein – 795 kg F+P

The two brothers, Bent and Lars, own Alstrup I/S in common.

CONGRATULATIONS TO BENT FROM ALL AT GENIMEX!

VIKINGGENETICS SETS OUT ITS BREEDING GOALS FOR THE JERSEY POPULATION TO BE ACHIEVED BY THE YEAR 2025

HEALTH AND FERTILITY:

Somatic cell count below 150,000
Max. 0.2 mastitis treatments per year
Retain the long living cow. Min. 4 lactations
Reproduction efficiency minimum 0.30 (Insemination % x Pregnancy %)

CONFORMATION TRAITS:

126-133cm high (rump) in first lactation
450kg live weight (mature)
Strong feet and legs. Dark hoofs
Strong udders - high weight on fore udder & udder depth (closely related to udder health and longevity)
Teats 5cm long, 2.5cm diameter

	Actual 2017	Goal 2025
Kg milk	7,349	8,100
Kg fat	438	506
Fat%	5.96	6.25
Kg protein	306	344
Protein %	4.16	4.25
Kg F+ P	744	850

VIKINGGENETICS®
Breeding for what truly matters

COMING SOON!

GENIMEX HEAT PATCHES

TO BE RELEASED SOON!

2 HOURS | 5 HOURS | 8 HOURS | 11 HOURS

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