- THE GENIMEX JOURNAL -

MILK & HONEY

Edition 12 • June 2017

Colin & Dale Armer
Engages with delegates and shares own experiences

Grazing Systems
Profitable use of supplements

Ons Kliënte Sê...
Daan & Elna Landman
Jan & Elna Rossouw
Etienne Zeeman

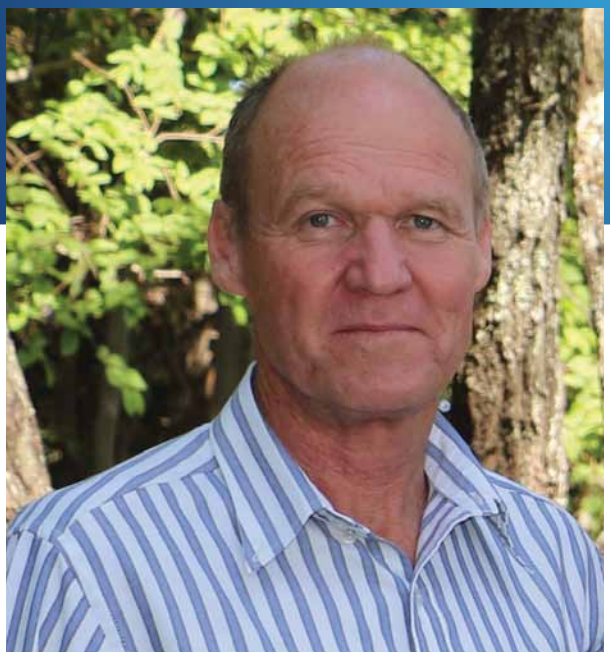
Henryetta
A new approach to AI training

Get off the Grass?
Geoff Corbett shares his insights

Amadlelo
Co-Operation taken to the next level

Tweefontein
Henri, Pierre & Philip Naude se sukses met D Sol dogters in hul kudde

SA DAIRY 2020
All about our workshop inside!



Foreword

By Chris Cloete

This is not the first time sitting on a long haul flight that I write the Foreword for the Genimex newsletter, the now widely read Milk and Honey. On these long haul flights one has time to ponder and think as there is little else to do. The movies don't appeal to me and then sleep does not come easy either. So here we go.

This semen industry that we find ourselves in is really strange. In SA there are no comparisons, there is no national data base, of any note, so it is a free for all when supplying semen into the dairy industry. In fact anyone can import anything and claim they are subscribing to Livestock Improvement. That is a matter for some serious debate and consideration.

This of course opens up a situation where price is the only thing that enables some agencies to sell semen. Just today I heard a client, now ex client, say he got some really good bulls at R----. I am afraid to say, this guy should rather dump that semen into the bin. He will lose less money that way because when it comes to milking the progeny of those bulls he will lose a bucket load of money. The only person getting anything out of that transaction is the semen smouse.

So, where does that put Genimex? Where is our point of difference?

In June of last year, on a ghastly rainy cold evening in Invercargill at the Southern tip of New Zealand, I was walking down the road chatting to Jeff Every, and the subject of a workshop aimed at dairy production off pasture came up. We managed to find an open restaurant to warm up, enjoy a bottle of red wine, not Pinon Noir for those that know us, to discuss the possibilities and put this thing together.

We called it-: SA Dairy 2020.

With the inputs from ACS and LIC in New Zealand we tied down some incredible speakers. Who would have imagined that we could get Colin and Dale Armer to come to SA to tell us how they built their incredible dairy business. Then Geoff Corbett a member of the leadership team of LIC in New Zealand. That is not to forget our Irish friend and scientist John Roche. What a draw card for the four meetings.

Thanks to these speakers for their preparation and inputs in planning their presentations and then the enthusiasm with which they did their presentations. A job well done, thank you.

A word of thanks to the ACS staff and the Genimex agents that put the message out there and got the delegates to register and attend.

The four meetings held were oversubscribed. A total of 175 dairymen and dairy ladies attended. The discussions went on and on and on. Our Chairman, the well known Ken Bartlett had his hands full in controlling the meetings and allowing everyone to ask questions and discuss the matters that were important to them.

I firmly believe that we achieved our self imposed brief. Which was to create a forum that allowed serious dairy farmers to find something to take home and improve their businesses thus making their businesses more profitable.

For those that missed the meetings, read about it in this edition of the Milk and Honey. You are welcome to contact the Genimex office for copies of the presentations.

This is how we at Genimex, LIC and Viking genetics prove our point of difference in this the difficult and challenging semen market.

In this, the 12th issue of the Milk and Honey, we highlight the SA Dairy 2020 workshops and some of the presentations. Further to that we highlight some of the success stories of our clients here in South Africa and focus on the three really important VALUE TRAITS. Udder Health, Hoof Health and Fertility.

Genimex and LIC together are one of the few, if not only, organization that has supported the South African Large Herds Conference (SALHC) since its inception. We will, be supporting the SALHC again this year together with our other major supplier Viking Genetics, when it is held in the Drakensberg. At this year's SALHC we will unveil Henryetta, the artificial cow that was developed by LIC in New Zealand to assist in training their AB Technicians.

I urge you to seriously consider your breeding decisions, especially when faced with some "cheap stuff" offered by a very good salesperson. The future of your business is far more important than short term savings on semen. You need to improve the genetic value of your herd to be able go forward and to assist you in a small way to deal with the challenges facing you, the dairy farmer of South Africa. We all need to be able to compete in the cruel world of international competition.

I quote what I said in a previous issue of the Milk and Honey.

"Reputations are not made on what people promise to do but on what they have done. True, but not quite profound. We at Genimex pride ourselves on the fact that we have over the last 21 years built a reputation in the South African dairy industry of being a leader and rather than make promises we have supplied the right genetics and will continue to do so in order to keep to our goal of: -

BREEDING HEALTHY FERTILE PROFITABLE COWS

Enjoy this the 12th issue of the Milk and Honey.

Chris Cloete

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Cover page photo:
The picture of a modern dairy herd that efficiently produces milk from pastures. The Crompton herd of the Stratford family in the Natal Midlands

Chris Cloete, Llewellyn Collett, Geoff Corbet and Britt Stanton

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Milk & Honey
Edition 12

Johan Müller van Genimex en Daan Landman

My verhouding met Genimex het vroeg in 1997 begin nadat 'n ramp ons kudde getref het. Ons het 350 koeie verloor as gevolg van blou groen alg vergiftiging. My versoek aan Johan Müller, Genimex agent, was om alles in die stryd te werp om die genetiese peil van die kudde so gou moontlik op die hoogste vlak te kry. Ons moes koeie aankoop en het ook koeie van oral as geskenke ontvang.

"My aanbeveling aan veral jong suiwelboere is om doelgerig jou teeldoelwit na te streef en kies die regte bron vir jou genetika. My keuse was om met Genimex ń vennootskap te sluit en ons pluk vandag beslis die vrugte!"

Ons teeldoelwit was dood eenvoudig om die hoogste kilogramme vastestowwe per hektaar te produseer. Om dit te bereik moes ons die massa en grootte van individuele koeie drasties verlaag. Kruisteling is op die grootste Holsteins met Jersey bulle gedoen en dit het uiteraard ons vordering versnel. **In 1996 was ons gemiddelde vastestof persentasies 3.36 % bv en 3.18 % prot. In 2004 was ons op 3,64% bv en 3.34% prot.**

In 2004 is ek saam met die Genimex span op 'n studietoer na Denemarke. Die eerlike wyse waarop die Dene hul ontsettend akkurate stelsel bestuur het, het my veral beïndruk. Hulle het ook lank voor die res van die wêreld begin doelgerig teel vir waarde eienskappe soos vrugbaarheid, mastitis weerstand en been en hoefgesondheid. Hulle sal die wêreld leiers bly op die gebied en doen voortdurend navorsing om meer doeltreffend te wees. Ons het dus sedertdien hoofsaaklik Deense genetika gebruik (ook op Holsteins).

Na 20 jaar weet ons die resultate was uitstekend. Ons kudde groei was verstommend en in 2013 is nog 'n plaas aangekoop wat totaal deur die oorspronklike onderneming met koeie voorsien is. In 2016 is die 3de draaitafel opgerig en die kuddes is verdeel in 'n Jersey, Holstein en 'n kruising eenheid. Ons het tans 2500 koeie in melk. **Die Jersey kudde produseer meer as 5000 kg melk met 'n bv van 5.0% en prot van ongeveer 3.9%. Die kruisings word nou vir ongeveer 3 mnde as ń groep gemelk en lê op 4.43% bv en 3.66% prot! Die Holstein groep staan op 3.82 % bv en 3.38 % prot.** M&H

VJ Hilario

(Q Hirse x Q Impuls x FYN Lemvig)

NTM +19

Fertility, longevity and good udders from the worlds best Q Hirse son.

Daughter proven VJ Hilario, is out of a very strong Danish cow family.

VJ Hilario is out of "Espe-Holm Impuls Joan" from Christian H. Olesen, Juulsgaard on the island of Funen. VJ Hilario is out of the same dam as VJ Tulsa – a sister to DJ Holmer. VJ Hilario is a brother to the dam of VJ Pick, "Espe-Holm Trick Jane". Exceptional results from the "J" family from Espe-Holm.

The dam, Espe-Holm Impuls Joan, milked for 7 years. Yearly average was 9475 kg milk with 5.33% fat and 4.17% protein.

73% of the genes in VJ Hilario are Danish, 12% are New Zealand and only 15% are North American.

VJ Hilario

VJ Hilario breeds high protein production, excellent type and exceptionally strong rear udders as well as shallow udders. VJ Hilario is a breed leader for daughter fertility. Udder health (low cell count) and longevity are some other of VJ Hilario's trademarks.

Now with 675 milking daughters in Denmark (they have on average 5.64% Fat and 4.10% Protein). 320 daughters are scored with an average of 80.5 – 80.1 – 80.2 – 80.3 (Body – F&L – Udder – Total).

VJ Hilario was marketed as a Genomic bull earlier and now sons like VJ Haare and VJ Hilo are in the new genomic Danish line up.

VJ Hilario was and still is marketed world wide with great success. In US he ranks very high due to his DPR of +3.5, PL of +4.9 and JPI/NM$ of 155/447. (M&H)

VJ Hilario daughter

VJ Hilario daughter

VJ Hilario daughter

SA DAIRY 2020

Pasture based airy production workshops

In April ACS, LIC New Zealand and Genimex presented four workshops aimed at dairy farmers that produce milk off pastures.

The speakers at the workshops were:

Llewellyn Collett - ACS

Jeff Every - ACS

Haylon Smith
New Zealand Trade Commissioner, Africa

Dr John Roche
Managing Director and Principal Consultant for Down to Earth Advice Ltd, a company providing strategic and operational advice to universities and dairy farming groups around the world. He is also Principal Scientist for Animal Science at DairyNZ and an Adjunct Professor of Animal Science at Lincoln University.

Geoff Corbett
Member of the Senior Leadership Team at LIC; primary responsibility as General Manager Biological Systems (includes Bull Acquisition, Genetics, Deer Improvement, Herd Testing Business Management, Environment & Nutrition and Diagnostics)

Colin and Dale Armer
Dairy Farmers in New Zealand who started share milking with 140 cows 30 years ago and now are the owners of 15 Large scale dairy farms on the North Island and own 37.08% of Dairy Holdings Limited on the South Island. DHL operate on 58 farms milking 48 000 cows and produce 2% of New Zealand's milk.

Ken Bartlett, Dale Armer, Colin Armer and John Roche

The meetings were ably chaired by Ken Bartlett of FarmWise, a subsidiary of LIC NZ.

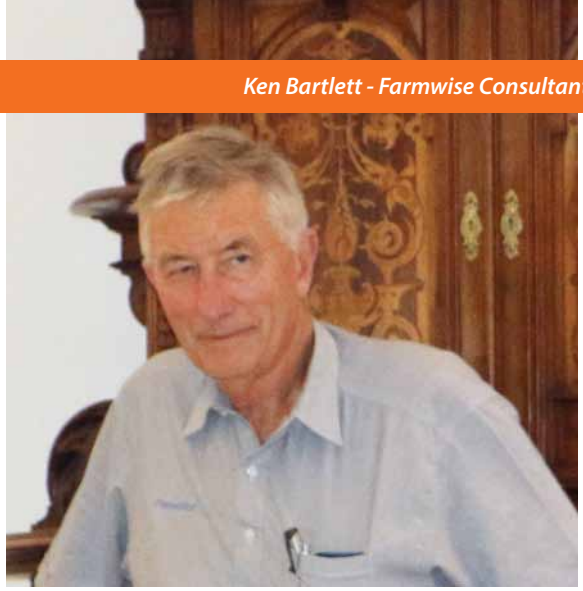
The topics discussed and presented were:

- **OVERVIEW OF INTERNATIONAL CO-OPERATION**
  Between South Africa and New Zealand
  - Haylon Smith
- **THE SOUTH AFRICAN DAIRY SITUATION 2017**
  - Jeff Every and Llewellyn Collett
- **USING SCIENCE TO GROW A BIG BUSINESS**
  Driving profit not production will lead to prosperity
  - Colin Armer
- **USING SUPPLEMENTS PROFITABLY IN GRAZING SYSTEMS**
  Are you making money from milk or milk from money?
  - John Roche
- **LOCATING THE TOP NOTCH AND THE BORDER LINE COWS IN YOUR HERD**
  Basing your decisions on science not emotions
  - Geoff Corbett
- **KNOWING HOW TO GET THE BEST OUT OF YOUR PEOPLE**
  Using the "DOPE" test and analysis.
  - Dale Armer

For more information and copies of the presentations you are welcome to contact Genimex

Ken Bartlett - Farmwise Consultant, NZ

SUMMARY OF THE FOUR SA DAIRY 2020 WORKSHOPS



These workshops were held from the 22nd March to 30th March 2017 and the focus was on Farm profit rather than farm production.

ACS Consulting opened the workshops with an excellent paper on South African Dairy farming in 2017. Llewellyn Collett or Jeff Every gave the paper and showed how in the last 10 years dairy farmer numbers have decreased but cow numbers and milk production has increased. This is similar in other Dairying countries. They then looked at one of their client bases. They showed if the base was divided into top third of farmers, middle third of farmers and bottom third of farmers what happened is that the bottom third of farmers slowly disappeared as they were bought out by the upper two thirds of the client base. It was demonstrated that to be in the top of third farmers you needed to have three main skills.

1. People Management
2. Financial Management
3. Farm management

The middle third had two of these skills and the bottom third may have only one of these skills.

> ***"Also it is important to use Sires from countries that have pasture based dairy farming systems. The right cow is important if you want profitable grassland dairying. The right cow. High genetic merit means sustainable profitability in the grazing system not just high milk yield".***

The next speaker was Colin Armer who demonstrated that to grow a large Dairy Business you have to have a simple system that is based on science and have one main goal and that is PROFIT. The three non-negotiable factors that are used on their 100 Dairy farms are:

1. Cows have to calve at Condition Score (CS) 4.5 plus Heifers at CS5.0 (South Africa 3.25)
2. Pasture Cover at calving is 2300Kg DM/ha
3. Follow the Spring Rotation Planner

The aim is to harvest as much pasture as possible.

All these farms have higher stocking rates than surrounding farms and calve earlier than the surrounding farms. No supplements are used and the focus is on profit not production.

Following this theme the next speaker was Dr John Roche who showed some interesting graphs from research in NZ and Australia that showed pasture based farms chasing high production per cow reduces profitability. He then got the audience to focus on the cost of marginal milk and showed in some cases the cost of chasing marginal milk can be higher than the price you get from it. This information was from research in UK, Ireland, NZ and Australia.

His next topic was supplementary feeding and it was shown that the true cost of the feed was 50% higher than the cost of the supplement [A supplement costing R4.00/Kg DM true cost is R 6.00/Kg DM. His research also showed supplements can be profitable in grazing situations if the pastures are hard grazed by the milkers [residuals 1400-1500 Kg DM /ha].

Continuing with the Profitability theme the next speaker was Geoff Corbett who showed it was important to identify your worst cows and not keep replacements from them. Also it is important to use Sires from countries that have pasture based dairy farming systems. The right cow is important if you want profitable grassland dairying. The right cow. High genetic merit means sustainable profitability in the grazing system (not just high milk yield). This means that the cow must be able to walk, graze and conceive at the right time every 365 days. American and European Genetics cannot do this as they are bred for intensive feeding. A quote from Geoff was "Cross breeding was one of the few times that Dairy farmers get a free lunch and hybrid vigour does continue".

The final paper was from Dale Armer who involved the audience and made them work out their dominant personality style and then they were asked to interact with other personality styles which naturally created a lot of discussion and laughter. All the workshops had excellent audience participation and questions.

The take home message is, when you are doing this year's financial budget do this.

Income = Milk and Meat Income based on Rand /Litre

Expenses in this order:

1. Feed the Bank
2. Feed the Family
3. Take out a profit (You are in it for profit not production)
4. Feed (run) the farm

John Roche, Principal Consultant, Down to Earth Advice Ltd.

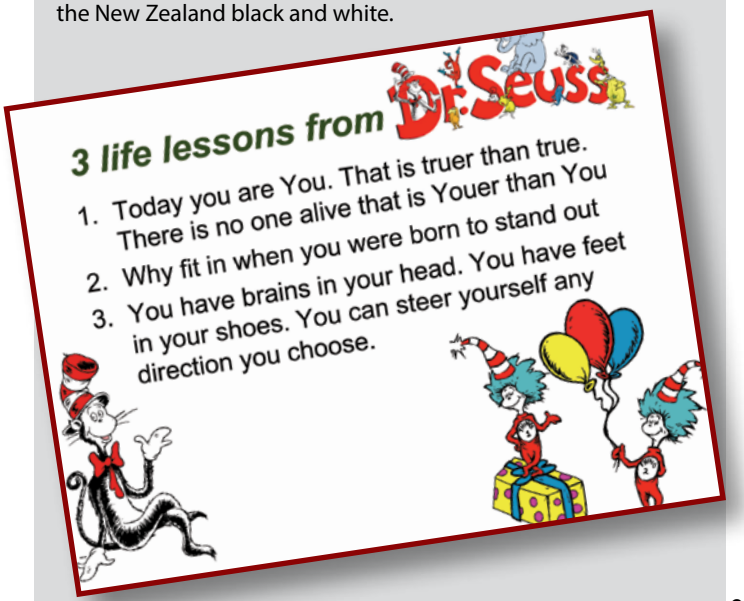
Why North American and Dutch Holstein-Friesian cows are not good for grazing systems!

Key message: Cows successful in grazing systems need to be selected from bulls whose daughters are proven in grazing systems.

An old Irish proverb states that 'an ounce of breeding is worth a pound of feeding', implying that animal quality is born and not made. However, this statement assumes that you have selected for the correct traits.

Until recently, most genetic selection indices included only milk production traits and there was a general belief that the best bull in any system was the best bull for every system (Miglior et al., 2005). Unfortunately, this belief led to importation of North American and Dutch Holstein-Friesian (HF) germplasm into New Zealand (NZ) and Ireland (Harris and Kolver, 2001). For example, between 1980 and 1999, the percentage of HF cows in NZ with some North American/Dutch HF ancestry increased from 7 to 96% (Harris and Kolver, 2001).

In the 1990s, farmers in both countries reported that these cows were more difficult to get pregnant. Much of these protestations fell on deaf ears because it was largely regarded that breeding against fertility traits was not possible due to its low heritability. Nevertheless, analysis of databases around the world highlighted that conception rates in dairy cows was declining (Roche et al., 2011) and experiments were established in New Zealand (Roche et al., 2006; Macdonald et al., 2008) and Ireland (Horan et al., 2005) to compare New Zealand Friesian cows and North American and Dutch HF cows in different grazing systems. Cows received different amounts of maize silage, maize grain or compound rations. On average, 6-week in-calf rate was 15% less in the North American/Dutch HF strain of cow compared with the New Zealand black and white.



Some people believed that this difference in reproduction was because the North American/Dutch HF cow was in a greater negative energy balance in early lactation and if she was fed more concentrates, she would get pregnant. This did not occur; feeding concentrates did not affect her energy balance (Roche et al., 2006) nor her 6-week in-calf rate or pregnancy rate after 12 weeks (Horan et al., 2005; Macdonald et al., 2008).

Detailed experiments in New Zealand highlighted physiological differences between these different cow strains that caused them to lose more condition (Lucy et al., 2009), irrespective of their diet, and resulted in a greater amount of lost embryos two weeks post breeding (Walker et al., 2012). In other words, the North American/Dutch HF cow was genetically inferior in reproduction.

Conclusion: Choose your bull from an index that includes the key characteristics of a grazing cow – milk production, fertility, and maintenance. The NZ Breeding Worth system selects bulls on these characteristics. M&H

Scientific papers used as references are available from the editor.

During and at the end of each workshop the delegates had a lot of time to engage with Colin and Dale not only about their presentations but also about their business in general. These are some of the points questions raised by the delegates and/or comments from Colin and Dale.

Colin Armer

We noticed a real hunger/eagerness for information from owners and managers

Science, really?

Our farm system had been developed from proven science with some modifications to allow for large multiple farms with lots of people (We cherry picked what was really important and discarded what was less so)

Simple systems that allowed large numbers of people to produce superior financial results for both parties.

To recap, here is some of the science that we applied:

- Spring rotational planner
- Use it or lose it (Kevin McDonald)
- Stocking rates and Calving dates (Clayton and Dr Bryant)
- Long grazing rotation lengths
- Strong focus on Grazing management
- Non cyclers do cycle (Vet club trial)
- It is all about high EBIT (Earnings before interest and tax) per hectare
- Control as many of the costs up and down the supply chain as possible.

Spring rotational planner

The concept of drying off cows in order to save feed for Spring Calver's was difficult for some to grasp. It is simple, dry cows need less feed than lactating cows.

Within the SA context the Spring Rotational Planner could be used very successfully.

Breeding

The positive effects of cross breeding on cow fertility was covered regularly, clearly solutions are available from NZ type genetics and are profitable when grass is the main diet.

Many were surprised as to the little emphasis we put on a breeding plan. They could not understand that we followed a system to breed black cows and the major decision was how much Jersey, NZ Fresian and how much Kiwi Cross.

No Concentrates!

Our ability to grow a large business without the use of concentrates surprised many, the concept of optimizing grass utilization (you already own the land so don't waste it use what it can produce) and moderate animal performance was as challenging for most as is in NZ!

Resolve to drive profit not production will lead to prosperity.

Body condition scoring and grazing management are all important. Early culling and drying off are used to achieve condition scoring targets.

High stocking rates and early calving are important.

Managing and developing staff

How to grow a business within a business (contract Milking / share-milking) this was dominant amongst younger people who are thinking about their future, this area will allow dairy business to grow if adopted and become a positive for both owners and managers.

Managers were really interested in what we do to develop the people within our business.

Managers were surprised to hear that we celebrated when they had grown enough equity and knowledge to be able to move on and dairy farm for themselves. The systems were made simple so that they are repeatable.

Succession

There was a lot of discussion around succession plans. We indicated that we have encouraged our children not to live in our shadow and become successful in their own right. Our business has been set up as corporates and the businesses will continue and the proceeds thereof will be used to educate grandchildren and great grandchildren. We will try and rule from the grave, Ha Ha! We encouraged the South African breeders to make sure their succession plans are in place in the interest of the long term sustainability of their businesses.

Dale Armer

People profiles

Basically people learnt we are all different and as owners we have to treat people differently to appeal to their personality type.

Some people are very sensitive and some require more detailed information than others and we must approach them accordingly.

DOPE Analysis allows us to

- Recognize the communication needs of team members, regardless of their position in the team.
- Minimize team conflict
- Develop stronger skills by identifying styles
- Understand priorities of employees and team members.
- Manage people according to their personalities and some personal observations
- Manage according to their style if we want to get the most out of our people.

I found it interesting that farming has few "peacocks" but I guess their ability to see a project completed and the isolation probably doesn't tend to attract this style.

We find in our farming operations in New Zealand that we seem to have a large number of Eagles as managers but their teams certainly have a number of Doves, Owls, and to a lesser degree Peacocks. M&H

WORKSHOP FEEDBACK

John Roche, Principal Consultant, Down to Earth Advice Ltd.

Are North American Jersey Cows suitable for grazing systems!

John Roche

Key message: Irrespective of the breed, if a bull is to be successful in a grazing system, he must be evaluated in a system whose breeding goals include the characteristics that are important in a grazing system.

New Zealand (NZ) Jersey cows are very successful in grazing systems. This is because:

a. The NZ breeding index includes non-production traits that are important to profitability in grazing systems (e.g., fertility);

b. Since the 1990s, NZ has had a single breeding index for more than 20 years. In other words, all bulls in NZ are evaluated against each other. Therefore, daughters from the highest Breeding Worth bull are predicted to return the greatest amount of profit to the business, when compared with a lower Breeding Worth bull, irrespective of their sires breed.

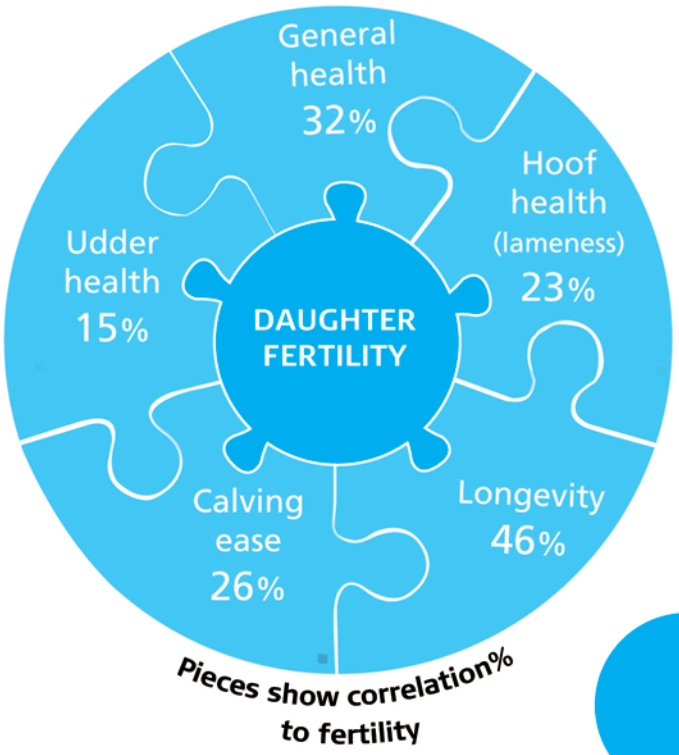
Jersey bulls from dairy systems that don't include the important profit variables among their breeding goals are not suitable for grazing systems. For example, when it was evaluated 10-20 years ago, the reproductive failure in the North American Holstein-Friesian cow was mimicked in the North American Jersey, because she was selected for the same characteristics (i.e., milk production). Therefore, North American Jersey bulls will not be as suitable for grazing systems as NZ Jersey bulls or NZ Holstein-Friesian bulls.

Conclusion: Irrespective of the desired breed, choose your bull from an index that includes the key characteristics of a grazing cow – milk production, fertility, and maintenance. The NZ Breeding Worth system selects bulls on these characteristics. M&H

Scientific papers used as references are available from the editor.

What drives daughter fertility?

Put your pieces together!



To improve fertility in your herd, you need to rely on the information about all health traits.

Dairy cow's fertility and health is a sophisticated system where everything is interconnected. To improve fertility in your herd, breeding only for better daughter fertility is just a piece of the whole puzzle.

To improve the fertility performance, it is necessary to have the NTM (Nordic Total Merit) as your goal. The reason is, that behind the NTM are the unique health traits, that have a huge number of reliable registrations of disease incidences made by veterinarians for all cows in Denmark, Sweden and Finland.

VikingGenetics sires have a full health profile - not only for daughter fertility but also for all important health traits.

Longevity 46% related (correlated) to fertility

Cows with good fertility and health stay longer in the herd. Daughter fertility, health and calving ease are key drivers of longevity. A long lasting cow is a healthy, trouble-free cow with higher lifetime production. That means lower costs and better profit for dairymen.

General Health 32% related (correlated) to fertility

General Health describes the genetic potential to resist:

- early and late reproductive diseases (e.g. retained placenta)
- metabolic (e.g. ketosis)
- feet and leg problems

Especially early and late reproductive disorders (cysts inactive ovaries etc.) have an impact on daughter fertility. The General Health index is calculated based on health records made by veterinarians from the first three lactations. Official registrations are done for all cows on all farms in Denmark, Sweden and Finland. This results in high reliability breeding values for General Health.

Calving direct 26% related (correlated) to fertility

Fertility is also connected with calving direct (sire effect), meaning bull's offspring's genetic potential to be born easily and alive. Difficult calvings (retained placenta, infections etc.) do have a substantial, negative impact on the cows' ability to get in-calf again.

Hoof Health 23 % related (correlated) to fertility

Cows with hoof problems and lameness are more susceptible for other infectious diseases, leading to decreased fertility. Behind the hoof health index are millions of registrations on hoof disorders made by hoof trimmers (first three lactations):

- Sole Ulcer
- Sole Hemorrhage
- Heel Horn Erosion
- Digital Dermatitis + Interdigital Dermatitis
- Verrucous Dermatitis + Interdigital Hyperplasia
- Double sole + White line separation
- Cork screw hoof

Udder Health 15% related (correlated) to fertility

Good udder health is important for improving fertility. Udder Health index in NTM includes:

- Clinical mastitis 1st to 3rd lactation
- SCC 1st to 3rd lactation
- Udder conformation

The Udder Health index is calculated based on records on clinical mastitis made by veterinarians in the first three lactations.
Using data on Somatic Cell Count (SCC) alone is not a good enough predictor for improving mastitis resistance. Correlation SCC and Clinical Mastitis range from 0.45 to 0.70. Registrations of Clinical Mastitis are more efficient. Official registrations are done for all cows on all farms in Denmark, Sweden and Finland. This results in high reliability breeding values for Udder Health.

The Correlation between Daughter Fertility and NTM is 44% for Holstein, 29% for Jersey and 21% for Red Dairy Cattle. That means that when NTM is increased by one unit, daughter fertility is improved with 0.44 index units for Holstein. By relying on the NTM index, you are breeding for improved profit.

To learn more about the selection of bulls please visit www.vikinggenetics.com

Genimex™

Use the following Viking bulls to improve Daughter Fertility.

HOLSTEIN - Bernell • Fanta • Blush

JERSEY - Hilario • Hitman • Juris

AYRSHIRE - Tuomi

Jan & Elna Rossouw - Bethlehem

Maluti Jerseys is jare gelede begin deur die alom bekende in Jersey kringe, Dudley Meyer. In 1985 gee hy sy goedkeuring en ek en sy dogter Elna is getroud. Hierna het ek die voorreg gehad om vir jare blootgestel te wees aan hierdie bekende kudde. Ek het later jare as gevolg van brande en die tekort aan weiding, die plaas aangrensend aan Skoonpa gekoop en ons Brangus kudde soontoe geskuif. Gedurende 2007 word pa Dudley terminaal siek en hy besluit om die grond en sy kudde te verkoop. In Februarie 2008 koop ons die plaas en kudde as 'n lopende saak. Ek word die trotse eienaar van hierdie bekende kudde. Tragies verloor ons Pa Dudley in Julie 2008.

Skielik is hier 'n geweldige uitdaging! Ek moet met my beperkte kennis, voorentoe met teling. Pa Dudley het hoofsaaklik Kanadees en Amerikaanse bulle gebruik. Hoe verbeter ons die kudde? Of eerder, hoe verhoed ek dat die kudde tot niet gaan?

Later gesels ek met my goeie vriend, Daan Landman van Lactimar, en hy stel my voor aan 'n nuwe vriend, Chris Cloete van Genimex. In 2009 koop ek die eerste Q Impuls strooitjies. Gedurende Mei 2009 besoek ek, Daan en elf ander boere saam met Genimex, Viking boere in Denemarke. Viking Genetics bederf ons en ons sien dogters van bulle beskikbaar. "Die penny drop!" Ek gaan net Deense bulle gebruik!

Terug by die huis begin ek met net twee bulle: Q-Impuls en DJ-May. Later volg DJ-Zuma in Q-Impuls se plek. In 2011 is ek en Elna weer saam met Genimex na die Deene en nog bulle volg. Vandag is ons op intelings program by Genimex en met die hulp van "genomics" word bulle geselekteer. Ons is nou hoofsaaklik 'n Deense kudde.

Ons koeie produseer genoeg melk met goeie vaste stowwe. Wat ons opgewonde maak is dat ons koeie aan die einde van hulle laktasie steeds goed melk. Ons trots is ons eerste kalf koeie. Hulle is 'n bewys dat ons in die regte rigting beweeg. Die koeie sorg vir kaas op julle pizzas en kos op ons tafel!

Wanneer ek my oë toemaak, wil ek my verbeel ek sien Pa Dudley. Ek kan amper sweer ek kon sien hy knik sy kop!

Etienne Zeeman boer op die plaas Leeurivier tussen Swellendam en Ashton met Jerseys en wingerd. Hier is sy storie.

Ek onthou nog 11 Maart 2002 baie goed toe ek die eerste Jerseykoeie begin melk het. Die kudde het toe bestaan uit ongeveer 60-80 koeie waarvan die meeste gehuur is. Die res is by verskillende mede melkboere aangekoop. Soos die hektare vrugtebome en groente verminder het, en weidings aangeplant is, is die kudde vergroot tot die 300 koeie wat tans in melk is.

Ek streef daarna om 24 uur per dag te wei op 'n grasklawer/lusern weidingsmengsel onder permanente besproeiing. 'n 10% energie kragvoer met minimum proteine (om die MUN vlakke te beheer) word teen 350g/lt melk in die stal gevoer.

Die enigste ruvoer wat aangekoop en gevoer word is garsstrooi wat die koeie toegang tot het vir so 'n uur in die oggend en aand na melk totdat hulle teruggaan weiding toe. Geen lusernhooi of kuilvoer word gevoer nie. Die kudde se stalgemiddeld wissel so tussen 17 - 21 lt/dag, afhangende van die seisoen en die kwaliteit van die weidings. Ten spyte van die knellende droogte wat tans heers was die stalgemiddeld vir Maart nog so net oor die 17lt gemiddeld (nadat melk vir die kalwers uit die tenk getap is). met 'n **5.34 %BV** en **4.05% Prot**. (Sien aangehegte tabel vir 13 maande rollende gemiddeld). My huidige melk prys, as gevolg van hoë vastestowwe en melk gehalte is tans R6,02/liter.

My teelbeleid is baie eenvoudig! Sedert 2002 word slegs Jerseysemen uit Denemarke gebruik omdat ek glo die Deense Jersey is die beste gebalanseerd in die wêreld. Hoë vastestowwe met meer as genoeg melk en uitstekende en betroubare sekondêre eienskap ontledings! Om die administrasieproses so eenvoudig moontlik vir sy personeel te maak word slegs een bul op 'n slag gebruik.

Die beste bul word gekies en swaar deur die hele kudde gebruik. ± 1000 - 1200 strooitjies van 'n bul word gebruik sodat hy 'n inpak kan maak in die kudde. Sy nageslag wat nie aan die vereistes voldoen nie, word geslag. Daar is geen kuddebul op die plaas nie. 'n Koei wat goed genoeg is om gemelk te word, verdien die beste genetika. Dit mag klink na 'n baie duur proses, want die beste semen van die top bulle kos in die omgewing van R155/strooitjie, maar ek regverdig dit met die volgende som. 75 – 100 strooitjies word maandeliks gebruik. Teen R155.00 elk is semenkoste in die omgewing van R15000 per maand. Dit is maar so 1.5% van my melktjek. Gesien teen die genietiese waarde wat die bul toevoeg is dit 'n goedkoop belegging! Maartmaand was my melkprys wat ek by een van die groot melkkopers in die omgewing gekry het R6.01/lt. Dit is na alle aftrekkings en heffings. Semenkoste maandeliks is minder as die premies wat hy verdien deur die lewering van top kwaliteiet melk. Premies word verdien op volume, area, uitvoer kwaliteit, sst en bakterie. Die premie op die laaste twee, naamlik sst en baketerie alleen is reeds meer as sy maandelikse semenrekening!! Van die eerste Deense bulle wat gebruik is, was Helium, Mirage, Laf en Look. Later is Panda, Plys, Jante en May gebruik.

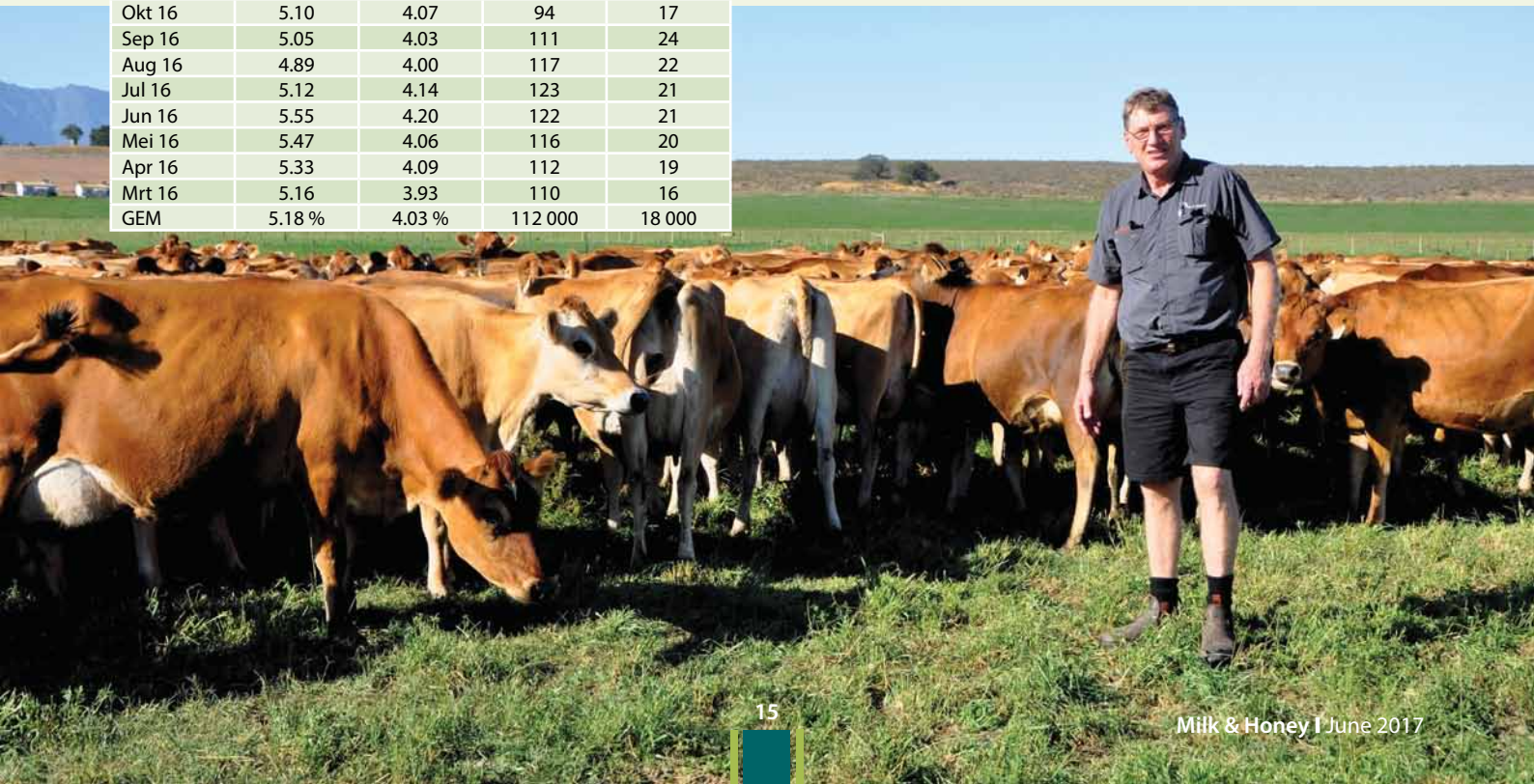
Bulle wat swaar gebruik is, is LIRSK, IMPULS, ZUMA, LIX, HILARIO en tans word HUSKY gebruik.

Volgens Mnr Tinus Viljoen, senior navorsigsbeampte van die LNR op Stellenbosch is die kudde van Etienne en sy bestuurder Attie Eksteen (wat al 13jr by hom is) 'n absolute modelkudde in alle opsigte. Geen wonder dat hy in 2012 die toekenning by die LNR gekry vir kudde met die beste genetiese vordering nie.

Soos die beskikbare hektare vir weidings meer word, beplan ek om die kudde in die toekoms uit te brei na 350-400 koeie in melk. Ek deel graag my kennis, idees en syfers met mede produsente en is altyd bereid om na nuwe idees te luister en dit toe te pas. M&H

Tabel: 13 Maande rollende gemiddeldes:

MAAND	BV%	PROT%	SST (000)	BAK (000)
Mrt 17	5.34	4.05	120	18
Feb 17	5.12	3.98	120	20
Jan 17	5.03	3.96	106	12
Des 16	5.09	3.94	113	13
Nov 16	5.08	3.94	95	13
Okt 16	5.10	4.07	94	17
Sep 16	5.05	4.03	111	24
Aug 16	4.89	4.00	117	22
Jul 16	5.12	4.14	123	21
Jun 16	5.55	4.20	122	21
Mei 16	5.47	4.06	116	20
Apr 16	5.33	4.09	112	19
Mrt 16	5.16	3.93	110	16
GEM	5.18 %	4.03 %	112 000	18 000



Chris Cloete

A new approach to AI training now offered in South Africa by LIC and Genimex

Livestock Improvement Corporation in New Zealand require in the region of 950 AI Technicians to inseminate the 4 300 000 cows in New Zealand every year. That means training about 100 new technicians every year.

The training courses involve theoretical training and practical training. The practical training consist of examining anatomical specimens and passing the insemination instruments through the cervix and into the uterus. Thereafter the trainees would practice on live cows which at current standards one is at risk with reduced availability and access to live animals and organs due to cost, logistics and animal welfare standards.

With these challenges facing the training staff at LIC they developed a training cow lovingly called "HENREYETTA". This is the most realistic training device on the market and it replicates a cows gynecological tract so that AI can be practiced in a safe and convenient environment. Not only is the model very natural in appearance its temperature can be controlled and a pneumorectum or the handling of the cow's tail can be simulated.

Data on training of technicians in New Zealand showed that only 55% of trainees passed week one of the training course. Since the introduction of Henryetta the success increased to over 80%.

LIC has been very generous and supportive of the South African Dairy industry and has kindly supplied a "Henryetta" to Genimex to assist our agents in the training of our clients.

Just another way that we at Genimex have a huge "Point of difference in the market".

Please visit the Genimex/LIC booth at the SALHC to "see and feel" Henryetta.

For more information on the cow go to www.mimitube.com or contact Genimex at info@genimex.co.za M&H

SPECIAL FEATURES

Anatomically Correct
including full reproductive tract and rectum

Viewing Windows
for control of trainees' actions

Temperature Controlled
for realistic body temperature

Life Like Tail
for learning techniques on how to handle the tail

Padded Pelvis
for imitating pelvic fat

Removable Rump and Tail
for easy cleaning

Barreling Pump
for imitation of pneumorectum

Peter Larson - Viking Genetics

VJ HITMAN

VJ Hian x DJ Jason x DJ Idorn

GNTM +24

Outcross and breed leader for Mammary and Fertility

VJ Hitman is out of "Ranch Jason Sivring", bred in the Hagenbjerggaard Jersey herd, owned by Anders Levring, Fjellerup.

VJ Hitman's dam is a good example of how it pays to genomic test females. She increased her NTM app. 25 NTM units after genomic test, resulting in a top ranking in the Danish Jersey population. "Ranch Jason Sivring", VG88, was flushed to VJ Hian, with VJ Hian and three full sisters as a result. "Sivring" will be flushed again, and so will one or more of the daughters.

The maternal line behind VJ Hitman is known for high production and good conformation. The dam, Ranch Jason Sivring, has an average 305 day lactation of 7785 kg milk with 6.62% fat and 4.66% protein, in two lactations! Next dams are at 7500 and 7700 kg milk yearly.

VJ Hitman is the first VJ Hian son to be marketed, note that VJ Hitman is free from DJ Hulk genes.

VJ Hitman breeds very high protein percentage, but more important is the exceptional high breeding value for udder traits. Breed leader for udder depth and ligament and positive breeding values for other traits related to mammary. Further more he breeds very good F&L, and VJ Hitman is also in the lead when it comes to fertility and udder health.

VJ Hitman has been used heavily as sire of sons and two sisters have just been flushed recently.

VJ QUINTANA

VJ Rodme x DJ Zuma x DJ Prima

GNTM +27

Outcross and exceptional breeding profile

VJ Quintana is out of ""Krogaard Zuma Zophia", bred in the Krogaard Jersey herd, owned by Palle Bjerggaard Hansen, Ullerslev, Denmark. A number of very good bulls are bred in the herd, such as OJY Mikkel, FYN Nis, SKAE Krig, DJ Lucus and VJ Primus (last two in the Quintana family)

The sire of VJ Quintana is famous VJ Rodme, a VJ Hubert (DJ Hulk) son out of a DJ May daughter. Rodme is well known as a type and udder improver – no doubt that VJ Quintana has inherited some of the good traits from his father.

The dam of VJ Quintana, Krogaard Zuma Zophia, has also contributed to the exceptional breeding profile of the bull. She is an extreme producer. Yearly average is 11,240 kg milk with 5.70% fat and 4.17% protein. Last 305 day lactation (3rd) was 12,030 kg milk with 1,150 kg fat + protein. Both MGD and MGGD has a yearly average over 9,000 kg milk.

VJ Quintana has 58% Danish genes, 20% Canadian, 18% US and 4% NZ genes. He is named after the famous Colombian bike rider Nairo Quintana, who won the Vuelta a España 2016.

VJ Quintana is only 13 months old, but has already been used as a flush sire, to produce the next generation of top bulls.

VJ Quintana breeds high production of fat and protein, with high percentages. He is a fertility, udder health and longevity improver. Daughters are expected to be tall, with a very good type (show type). Udders will be extremely shallow, high and wide rear udders with strong ligament. Along with that, you will get teats of ideal size and placement, easy to work with.

VJ Quintana will work very well in combination with pedigrees from US, Canada and NZ, because none of their top bulls are present in his pedigree and because he is one of the world's best for udder depth in combination with high production of solids.

Geoff Corbett - LIC

Get off the Grass? you've gotta be joking!

In the 1980's when agricultural subsidies were stripped from New Zealand farmers, they learnt to prepare, adapt, and – importantly – take advantage of the inevitable opportunities. Profitability and efficiency, we've learnt, provides options.

Profitability and efficiency must continue to be the cornerstone of successful dairying in New Zealand – regardless of the system or technology used. This has been the basis of our farming for the last 100 years although the importation of feed into the system in the past few years has questioned profitability. With the recent downturn in dairy prices we have seen the shift back to grass-based farming, a reduction in farm working expenses and return to profitability. In my recent trip to South Africa, talking to farmers, these fundamentals were not so different from what the Kiwi farmer has been facing.

For New Zealand, the best way to make a profit is by breeding animals that repeatedly convert relatively low-cost feed into high-quality, valuable, milk. Whether you see it as by good luck or good design, the New Zealand cow is renowned for her ability to efficiently produce milksolids, and get in-calf each year (and keep doing so for an average of five lactations).

Low-input or high-input, these systems continue to tap into the power of pasture, and this is why New Zealand farming remains the envy of dairy producers the world over.

In the past 20 years alone, average milksolids production of the New Zealand cow has shown a remarkable increase, going from 278kg (1995) to 371kg (2014).

Sixty per cent of that increase can be attributed to genetic improvement.

Three out of every four cows in New Zealand are inseminated by LIC, a farmer-owned cooperative that has delivered the lion's share of herd improvement for Kiwi farmers. This has been delivered through year-on-year improvements in production and efficiency through LIC's breeding programme. The best part is that LIC makes herd improvement so easy for farmers with lots of options – in the majority of cases farmers chose the Premier Sires option to deliver the best team of bulls available.

This should not be too different for pasture-based South African farmers. There is no need to produce a specific index, just trust in the Breeding Worth Index (BW) developed in 1996 but built on decades of herd improvement on New Zealand farms. Most breeding indexes across the world using pasture-based systems are highly correlated, which means that if you are a pasture-based farmer, these indexes should accomplish your breeding goals. When South African farmers were asked what traits they were interested in breeding for, these were Protein, Fat, Fertility, Somatic Cells, Longevity - all of these plus Body Condition Score, liveweight and Volume (negative) are contained within the BW index used in New Zealand.

Genimex (LIC's distributer in South Africa), will be able to select a team of bulls specific to your requirements – your herd improvement discussion doesn't need to take hours every season. The team approach, and the fact that the team will change significantly every season as new higher performing bulls come through, does take care of your in-breeding concerns to a certain extent if your herd isn't fully recorded. If you want Protein, Fat or Volume, Genimex can select the appropriate team for you as bulls and BV's are available for all of these categories. Bull teams largely consist of proven bulls, with a few new exciting young bulls coming through that have almost gained their proof – providing you reassurance of performance.

As a farmer, the greatest amount of selection pressure that you can bring to bear in terms of your herd improvement is – knowing who your worst cows are and not breeding from these, and keeping the right replacements. It is a well-known recipe that provides options to improve herd quality and performance:

- Selection of the best sires for mating,
- Good culling decisions,
- Sharp focus on reproductive performance.

If you don't have any production figures for your cows and the only requirement for replacements is if they are born in the first three to four weeks of AB, then your rate of genetic gain will be significantly compromised.

Milking cows that excel on pasture-based diets have been the profitable competitive advantage that Kiwi farmers have long subscribed to. Genimex has been bringing these genetics to South African farmers for a number of years to take full advantage of their pasture. For Kiwi farmers, any move to get off the grass? You've gotta be joking!

Haylon Smith - NZTE

Overview of International Co-Operation

It is not very often we have a group of experts visit South Africa from New Zealand – from any industry. So the excitement levels grew when Genimex, LIC and ACS consulting announced their Dairy 2020 roadshow.

The roadshows, a series of four seminars across the country, was a chance for farmers from two countries to talk about pasture based dairy farming, and specifically - profitable dairy farming. New Zealand has been seen as a world leader in efficient and low cost conversion of pasture to protein, and the systems that surround it. We developed efficiencies because our country relies heavily on exports to grow its economy, which leaves New Zealand vulnerable to fluctuations in global dairy prices – particularly for a country that has no subsidies to farmers. The result is an agile farmer collective, focused on the science, technology and systems that can help them stay afloat during the tough times.

I was fortunate enough to attend two of the roadshows in the Eastern Cape. What I saw was robust debate, discussion and interesting insights, which of course is where all good ideas come from. The Kiwis weren't there to preach, nor 'hard-sell' but rather talk about what's worked for us in New Zealand, and what hasn't – and of course, what can still be improved. The volume vs margin debate was strong, and of course, how farming differs here in South Africa. No biological system will work the same in a foreign environment; New Zealand has seen this in other industries too. But what is applicable across industries is New Zealand's systems, the people and the scientific approach to decision making.

In my role as Trade Commissioner the primary focus is to help New Zealand companies grow internationally. Often, people think containers of milk powder, kiwifruit and lamb. But the real value, the quid-pro-quo in international trade sits within the knowledge economy, the softer side. Farming systems are no different; New Zealand has a long history of R&D, trial and error, "number 8 wire" (a Kiwi term for ingenuity and creative thinking), and a focus on education.

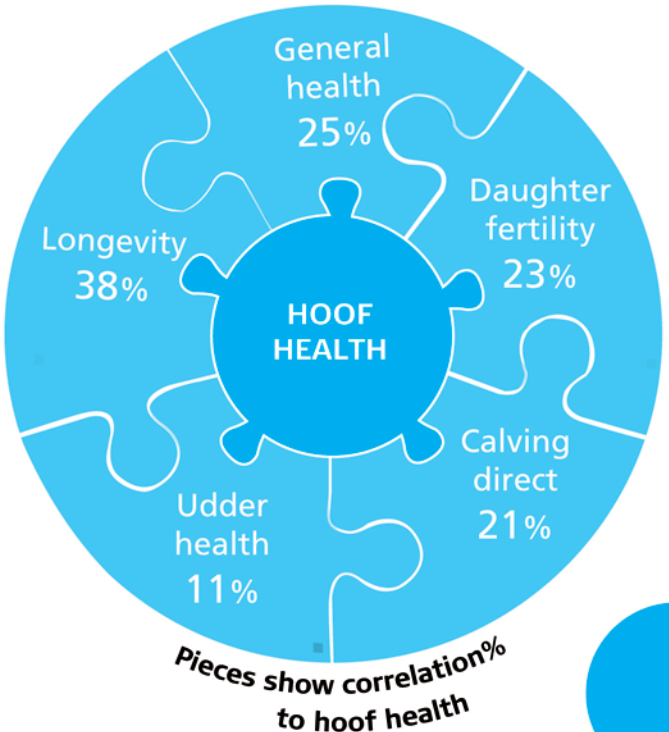
Besides LIC, there are a number of New Zealand companies well established in the South African dairy industry, including Waikato Milking Systems and Gallagher. Although the ultimate driver is to support export growth (New Zealand currently exports 10 billion Rand of agritech equipment each year, primarily focused on the pasture based agriculture sector), the wider knowledge sharing is also very important for us, as it also feeds back into the innovation system.

My hope is to see the continuation of these roadshows in the future, perhaps every two years. If the feedback to date is anything to go by, this will certainly be the case. Between times, we are always welcoming farmers to visit New Zealand and engage with more of the New Zealand industry – we have several 'Fieldays' and agricultural shows in New Zealand that attract a large number of international attendees.

The roadshows have helped strengthen the already strong ties between South African and New Zealand farmers – a relationship that we are keen to expand even further; so a note of thanks to the team from Genimex and ACS who took the time to put together an excellent series. M&H

Why is hoof health important?

Put your pieces together!



Dairy cow's health and well-being is a sophisticated system where everything interacts.

Good hoof health is crucial for achieving long productive life and good fertility in your herd. Hoof health is strongly correlated to Vikings other health traits, just like a jigsaw puzzle.

When using NTM (Nordic Total Merit) as your goal, you get it all!

The reason is, that behind the NTM are the unique health traits, that have a huge number of reliable registrations of disease incidences made by veterinarians for all cows in Denmark, Sweden and Finland.

VikingGenetics sires have a full health profile - not only for hoof health but also for all important health traits.

Longevity 38% related (correlated) to hoof health

Cows with good hoof health stay longer in the herd. Daughter fertility, hoof health, general health and udder health are key drivers of longevity. A long lasting cow is a healthy, trouble-free cow with higher lifetime production. That means lower costs and better profit for dairymen.

Photo Elisabeth

General Health 25% related (correlated) to hoof health

Cows with strong hooves are less susceptible to other diseases, like reproductive and metabolic disorders. General Health describes the genetic potential to resist:

- early and late reproductive diseases (e.g. retained placenta)
- metabolic (e.g. ketosis)
- feet and leg problems

The General health index is calculated based on health records made by veterinarian from first three lactations.

Daughter fertility 23 % related (correlated) to hoof health

Lameness has a negative effect on dairy cattle fertility. Any time a dairy cow has cycling problems, not getting pregnant or losing a pregnancy, this results in higher costs (feed and reproductive costs) and a net loss for the farmer. Fertility costs are the major costs connected to lameness – accounting for about 40% in total annual cost for a dairy farm.

Calving direct 21% related (correlated) to hoof health

Hoof health is also connected with calving ease (sire effect) - bull's offspring's genetic potential to be born easily and alive. Difficult calving has a negative impact on cow's health and ability to get in-calf during later lactations.

Udder Health 11% related (correlated) to hoof health

Cows with strong hooves have stronger resistance to mastitis. Udder Health index in NTM includes:

- Clinical mastitis 1st to 3rd lactation
- SCC 1st to 3rd lactation
- Udder conformation

Using data on Somatic Cell Count (SCC) alone is not a good enough predictor for improving mastitis resistance. Correlation SCC and Clinical Mastitis range from 0.45 to 0.70. Registrations of Clinical Mastitis are more efficient. Official registrations on clinical mastitis are done for all cows on all farms in Denmark, Sweden and Finland. This results in high reliability breeding values for Udder Health.

The Udder Health index is calculated based on records on clinical mastitis made by veterinarians in the first three lactations.

When using NTM (Nordic Total Merit) as your breeding goal, you get it all! To learn more about the selection of bulls please visit www.vikinggenetics.com

Genimex™

Use the following Viking bulls to improve Hoof Heath.

HOLSTEIN - Osmus • Miracle • Blush

JERSEY - Juris • Lobo • Hizzi

AYRSHIRE - Tundra

Chris Cloete

Amadlelo Co-Operation taken to the next level

Genimex, LIC New Zealand and Amadlelo co-operation taken to the next level.

As we have reported in previous issues of Milk and Honey there is very close co-operation between the three parties with:-

- Senior Managers of Amadlelo visiting New Zealand every year.
- Two Interns working on dairy farms in New Zealand for a year.
- Annual visits by Ken Bartlett the well know FarmWise consultant to the Amadlelo herds once a year.

During the visit to South Africa by the speakers for SA Dairy 2020 we included a visit to two of the Amadlelo herds, Middeldrift and Keiskammahoek.

The objectives of the visits was to show the New Zealand party the successes of the Amadlelo project as well as to allow the managers of the herds to "pick the brains" of the visitors in order to improve the management of their herds. M&H

Simon Alderson-Smith and Hendrik Bezuidenhout of Genimex

Abulele Mtambeka and Siphosakhe Nondlebe

Jeanet Rikhotso (Middeldrift Dairy), Clifford Tshikovhele (Middeldrift Dairy), Geoff Corbett (LIC), Jeff Every (Amadlelo) and Ken Bartlett (FarmWise)

Haylon Smith (NZTE), Dale Armer, Colin Armer, Ken Bartlett, Jeff Every and John Roche.

Group of rising one year olds all bred from LIC Sires

The foreign delegation with the management team from the Amadlelo herd at Keiskamma Hoek.

Neil Smith, FarmWise Consultant

Cow condition a concern in Northland

A Northland farm consultant is concerned at the loss in cow condition over the last two months, and the negative impact this could have on milk production and in-calf rates for next season.

And it's a situation that won't be exclusive to Northland, Neil Smith, FarmWise Consultant says, with tight cashflows from the lower payout making farmers more cautious about buying increased levels of supplement to help bridge any gap in feed.

With several months to get through before pasture growth and quality improves in the Spring, Neil is encouraging farmers to take action now to get their cows back on track. "I know December was particularly difficult in Northland, with very dry conditions reducing pasture supply and farmers using less supplementary feed. Recent rainfall will have improved the feed situation for some, and relieved the immediate pressure on cow condition, but it still needs to be monitored very closely over the coming months to minimise any negative impact on next season's production and mating performance," he said.

DairyNZ targets state a mature cow should be body condition score (BCS) 5 at calving. Heifers and rising three-year-olds should be BCS 5.5. "I've seen cows that are half a BCS lower than this time last year, with the average dropping below 4.0 and an increasing number of cows with BCS 3.5 or less," Neil said. "That's too low, particularly 3.5 and below. Those cows now need to be monitored very closely. These are the more at risk cows and will require the greatest gain in condition before calving."

To help farmers take action, and get their cows back on track, Neil has put together the following tips and strategies:

1. Condition score the cows – now.

This will tell you the average condition of the herd, the range and percentage of the herd at various BCS.

Make sure this is done thoroughly. The more cows scored, the more accurate the result.

If you are not good at condition scoring get someone in who can.

Score at least 70 - 80 cows from each milking herd. This can now be recorded on a mobile phone and then downloaded to MINDA.

Select at least 15 individual cows (depending on herd size) to monitor leading up to calving and review how condition is changing through to calving, especially for the priority young cows. Make sure these cows range in age, BCS and calving date.

2. Assess the likely farm conditions through to calving

What will be the likely pasture supply and quality through to calving?

What are the resources available in terms of supplements, crops, grazing off and staff? Some supplement may need to be kept till after calving.

3. Develop a longer term plan and set strategies through to calving

Make sure this is done in conjunction with a financial budget.

Include the number of cows and young stock to be grazed, allocation of supplement and crops, the amount of grazing off available, milking frequency and drying off protocol.

Allocate enough time for cows to put on condition. This can be a major reason why cows don't reach target condition at calving. Take into account the dry-off period and the last month of pregnancy where there is no gain in condition.

The type of feed used in the dry-off period can have a major impact on gaining body condition. Most winter grazing off for cows in Northland is on poor quality pasture such as matted Kikuyu. Be realistic about putting on cow condition in these situations. Take this into consideration when drying off cows.

4. Continue to monitor cow condition through to calving on a regular basis

Cows should be condition scored every two months from mid-lactation (February to March), at a minimum.

For herds calving in June and early-July calving, regular condition scoring should start in February. Early calving heifers at BCS 3.5 or less will need to be dried off in February if only being fed on pasture in the dry period.

Make sure both the milking and dried off cows are scored. Often heifers are dried off early in the summer months based on low body condition, but then not fed well enough to achieve target condition for calving.

At each condition scoring, record daily feed intake and KPIs such as milk production, available supplements and pasture cover. This information is helpful in deciding the immediate management options. These options could be OAD milking heifers, increasing supplement levels or drying off low conditioned cows.

Some factors like rainfall are difficult to predict, but no rain for long periods can have a big impact on pasture supply.

In difficult conditions, when cow condition can change quickly, condition score on a weekly basis.

5. Keep reviewing and revising the plan, and be prepared to make changes as required. M&H

Profitable use of supplements in grazing systems

Key message: To be profitable, only supplement cows when you do not have enough pasture.

"It is often assumed and frequently stated, that pasture is not capable of supplying the needs of a high producing dairy cow, and ideally, needs to be supplemented with suitable concentrates" - **McMeekan, 1947**

To improve profitability, supplementary feeds must result in an increase in revenue that is greater than the costs incurred. In general, however, I have found that people exaggerate the revenue generated and underestimate the costs. Care must be taken to account for all costs associated with feeding cows and not just the feed cost.

There are a few points to consider when making the decision on when to feed and how much to feed.

Cows do not benefit from replacing pasture with a supplementary feed!

For grazing dairy cows producing less than 40 kg milk/day (3 kg fat and protein), the primary factor limiting milk production is intake of metabolisable energy (Kolver and Muller, 1998; Roche, 2017). Nevertheless, for more than 70 years nutritionists and people selling feed have tried to convince grazing dairy farmers that offering something in addition to pasture will benefit the cow in some way.

In the 1880s in Germany, Gustav Kuhn reported that the production of ruminant animals was the same when fed cellulose (digestible fibre) or starch, highlighting the benefit of ruminant animals to digest fibre. Consistent with this, a number of experiments have shown that replacing fibre with either starch or sugar does not increase milk production or alter the loss of body condition in early lactation (Carruthers et al., 1997; Roche et al., 2010).

Replacing pasture with an 'alternative' feed will not improve milk production, health, or reproduction. In fact, this results in pasture wastage and a decline in pasture quality in subsequent rotations (Stakelum and Dillon, 1991).

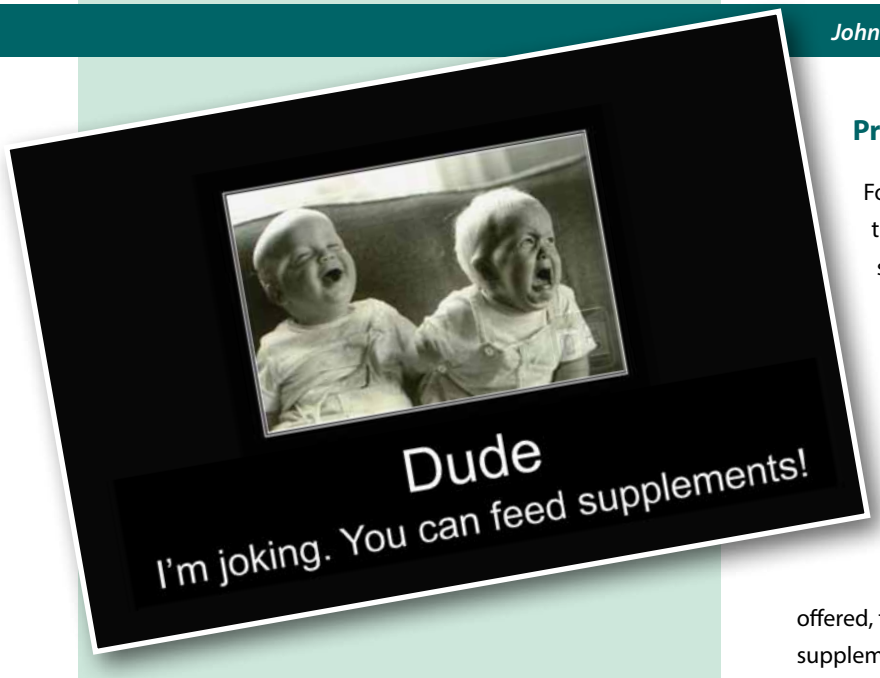
Substitution rate and response to supplements

Nevertheless, if supplements are used to increase the intake of metabolisable energy, they increase milk production; on average, in experiments, this is reported to be 1.0 to 1.1 kg milk (approximately 90-110 g fat and protein) for every kg of concentrate provided (Bargo et al., 2003; Roche et al., 2013). However, this response can be much lower (Macdonald et al., 2017; Roche, 2017).

The primary factor determining the response to supplementary feeds is substitution rate (Stockdale, 2000); this is when cows refuse pasture (i.e., substitute) if they are offered a supplementary feed. The primary factor determining substitution rate is hunger. The hungrier the cow, the lower the substitution rate.

"Should we force science down the throats of those that have no taste for it? Is it our duty to drag them kicking and screaming into the 21st century? I am afraid it is." – **Sir George Porter (1920-2002)**

So, although the average response to supplementary feeds in experiments is approximately 1 kg milk/kg concentrate, the response on farm is often much less. Ramsbottom et al. (2015) reported that the response to supplements on dairy farms in Ireland, for example, was 30% less than reported in experiments.



Response to supplements is greatest when post-grazing residuals are low. If residuals are < 3.5 cm (7 clicks on the plate meter), response to supplements is generally 1 kg milk/kg concentrates DM. However, if residuals are above 3.5 cm, response to supplements declines rapidly and can even be negative because of the negative effect on pasture quality for subsequent rotations. Therefore, grazing cows should only receive supplements when residuals are less than 3.5 cm.

Costs of supplementary feeds

Although everyone acknowledges that supplementary feeds cost money, most people underestimate this cost. The total cost of feeding a supplement must include the price of the supplement, any transport costs, the cost of feeding the supplement, and any associated costs (e.g., electricity to harvest and cool milk, costs of additional cows, etc). Analyses of databases from all over the world indicate that, on average, total costs increase with supplementation by about 150% of the cost of the feed. So, if feed is costing R2/kg, the total cost increase associated with running a higher feed input system will be closer to R3/kg supplement. It is important to account for these associated costs.

"I cannot give any scientist of any age better advice than this: the intensity of the conviction that a hypothesis is true has no bearing on whether it is true or not. The importance of the strength of our conviction is only to provide a proportionately strong incentive to find out if the hypothesis will stand up to critical evaluation." – **Peter Medawar (1915-1987)**

Profitable use of supplements

For supplements to be profitable, the milk response and the milk price must be greater than the total cost of the supplement. For this to be profitable, responses would have to be greater than 0.6 kg milk/kg concentrate at a R5 milk price or greater than 0.8 kg milk/kg concentrate at a R4 milk price.

Ironically, it is when milk price is high that farmers make less money from producing extra milk. That is because the incentive to produce more milk is so great, adequate due diligence is not paid to the cost of this 'marginal milk'. The more supplements offered, the less hungry the cow, and the lower the response to supplements.

In an analysis of Irish dairy farm businesses, Ramsbottom et al. (2015) reported that operating profit/ha declined linearly with increased feed use above 500 kg/cow (approximately 10% of the cow's annual diet). This is because virtually all variable and fixed costs increase with increasing feed use. A key message from this work was that 'fixed' costs are not FIXED!

"When science is abused, hijacked or distorted in order to serve political or ideological belief systems, ethical standards will inevitably slip. The resulting pseudoscience is a deceit perpetrated on the weak and the vulnerable. We owe it to ourselves, and to those who come after us, to stand up for the truth, no matter how much trouble this might bring" – **Edzard Ernst (1948-)**

These results should encourage caution to consider all costs and to provide supplementary feeds only when grazing residuals are less than 3.5 cm (7 clicks on the rising plate meter).

Conclusion: The cost of supplementary feed is often much greater than the feed cost; analyses of databases from around the world estimate that total costs increase by 150% of the cost of the feed.

Measure the post-grazing residual. Only when residuals are less than 1,500 kg DM/ha (3.5 cm or 7 clicks on the rising plate meter) should you consider offering cows a supplementary feed. In this situation, marginal responses to supplements will be high (approximately 1 L milk/kg supplement) and the supplements can be used profitably as long as the milk to feed price ratio is greater than 1.5. M&H

Scientific papers used as references are available from the editor.

Pierre Naude - Worcester

D Sol Dogters in laat laktasie

VIKING HOLSTEIN BULLE PRESTEER MET UITSTEKENDE DOGTERVRUGBAARHEID!

Henri, Pierre en Philip Naude - Tweefontein Worcester

Viking Genetics is reeds lank bekend vir hul volgehoue streng seleksie vir waarde eienskappe soos vrugbaarheid, uiergesondheid, hoefgesondheid en lanklewendheid. Met 'n Holstein populasie van meer as 600 000 koeie en 'n uiters betroubare rekord sisteem, het hulle daarin geslaag om geneties die voortou te neem wat juis hierdie eienskappe aan betref.

Vir ons as agente is dit egter nie altyd maklik om potensiële kliente hiervan te oortuig nie. Daarom is dit so bevredigend as ons resultate in ons eie land kan gebruik om juis hierdie resultate te bewys. **Die Naude familie, Henri sy seuns Pierre en Philip** boer op Tweefontein naby Worcester met wingerd en melk. Alhoewel dit 'n spanpoging is, is Henri en Philip meer betrokke by die wingerd afdeling en Pierre bestuur die 400 koei kudde. Sy eerste **Sol** (Deense Holstein bul) dogters is besig om hul laktasies te voltooi. **D Sol** is die eerste Deense Holstein bul wat Pierre groot hoeveelhede semen van gebruik het.

Sol het tans meer as **17000 dogters** in sy ontleding en spog met ongelooflike ontledings vir juis hierdie waarde eienskappe. Sy ontleding vir algemene gesondheid is 119, lanklewendheid 113, vrugbaarheid 103 en hoefgesondheid 114.

Pierre het **56 Sol dogters** in die melk en **43** van hulle is reeds dragtig met 6 wat nog te vars in die melk is om geinsemineer te word. **Die gemiddelde dae oop van die 43 dogters is 'n indrukwekkende 82 dae!!**

Sedert 2015 is die teelbeleid op Tweefontein juis om te teel vir die mees ekonomiese eienskappe soos hoë kwaliteit melk en spesifiek die waarde eienskappe soos vrugbaarheid en uiergesondheid. Die Skandinawiese stelsel wat gebruik maak van die **Nordic Total Merit** indeks, is ideaal en slegs die beste genomies bulle word gebruik. Tans word die bulle VH Brook en VH Bernell gebruik. Baie dankie aan die Naude's vir hul volgehoue ondersteuning en vertroue wat hulle in ons produk het! (M&H)

Why is udder health index better than SCC?

The breeding value Mastitis resistance

describes the genetic ability for a cow not to get a clinical mastitis. Records of clinical mastitis, SCC, fore udder attachment and udder depth are calculated. Information from SCC and type traits are used as in- formation. Formula for the index for udder health is: (0,25 x CM11)+(0,25 * CM12) +(0,3*CM2) +(0,2*CM3)

Trait	lactation	
Clinical mastitis day -15 to day 50	1st lact	CM11
Clinical mastitis day 51 to day 305	1st lact	CM12
Clinical mastitis day -15 to day 150	2nd lact	CM2
Clinical mastitis day -15 to day 150	3rd lact	CM3

Udder health indicators	lactation
SCC	1st to 3rd lact
Fore udder attachment (FUA)	1st lact
Udder depth (UD)	1st lact

Indirect or direct measures

The breeding goal for improved mastitis resistance is to reduce the frequency of clinical mastitis. In relation to this goal, the best way is to use the direct measure- ments which are clinical mastitis based on veterinary records. Many countries use SCC instead, because they do not register the clinical mastitis, which is an indirect measure. It is important to understand that those two traits are two different traits with a correlation of about 0,7. There are other things than a clinical mastitis that affect SCC such as age and breed.

Facts

Results are shown that heritability for direct clini- cal mastitis based on records is 0,03 and for SCC 0,12,. To be an official breeding value for mastitis resistance, there need to be at least 70 effective daughters in milk production. 14% of culled cows in Sweden are culled due to clinical mastitis and 11% of the cows are treated for mastitis eve- ry year. Weight in NTM for udder health is 0,35 which is 14% of the total NTM.

What does the breeding value mean in reality?

In reality, the average number of clinical mastitis is 11% and 10 index units means 2% less treatments. By using a bull with breeding value 120 in mastitis resistance instead of 100 will reduce your treat- ments with 4% mastitis down to 7% in average, which is a reduction of 40%! In the calculations a clinical case of mastitis costs 500 EURO in vet treat- ments, antibiotics, extra work, loss of milk etc. If you have 500 cows and 50 cases per year instead of 70 will save you 10 000 EURO every year!

Photo: Elisabeth

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