- THE GENIMEX JOURNAL -

MILK & HONEY

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Hanna Driscoll explains why farmers are demanding a smaller cow

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LA MONTANARA
'n Trotse Familiebesigheid

Die Deli op La Montanara

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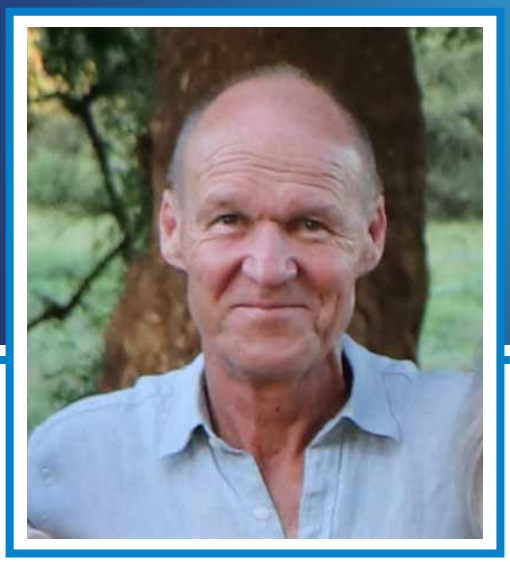


Foreword

BY CHRIS CLOETE

Sitting down to write this foreword is to me always a challenge as I have very limited writing abilities and I am as far from a journalist as one could get. However I am in the very privileged position to have developed a group of people around me that are very capable and willing to help.

First and foremost I would like to, as always mention Joyce Voogt of LIC. What an incredible help Joyce has been even though she has an enormous workload at LIC. Her articles are based on science but written in such a way that they make sense and are practical.

Johan Müller, with an important point of view, has as usual with a very important view written an article on the genetic developments of the Cineraria Jersey herd near Greyton. Thank you Johan.

Willem van Lingen offered to write an article on the success of a family business making prize winning cheese. The La Montanara story, featured in the center fold of the newsletter makes for great reading. Thank you Willem for the story as well as the photographs published.

Thanks also go out to Peter Larson and Seppo Niskanen of VikingGenetics for their inputs.

Enough about that. I have many times indicated that the staff and sales staff of Genimex is what makes this company. The staff compliment is focused, dedicated and long serving. In the photograph taken in 2018, or BC (Before Corona) is the team as it had been for many years before and still is. These are the people that drive the hard miles making sure that the genetic progress of your herd stays on track.

What you will notice is that there are a few of us that are getting on in age and as a very good friend of mine said "there is no future in old age" I have realized that said, I had to start looking at the long term planning of Genimex. Good semen agents are hard to find and so I have taken a long term approach and decided to employ young graduates, give them the necessary training and only then let them loose in the cruel world of semen sales.

On page 8 of the publication you will find an article written by Elizna Erasmus highlighting the first part of her training. Welcome Elizna and thank you for the enthusiasm and energy with which you started your so called internship. Right now we are awaiting Elizna's visa for her to go and work in Denmark on farm and with the Viking staff.

I have tried to put articles of various but relevant topics in the issue. With the buzz word around the world being "efficiency" there are two articles, one from each of our suppliers, LIC NZ and VikingGenetics on this topic.

My good friend Jan de Jong was asked to write an article and he had pretty much an open book. Thank you Jan for your interesting and different approach.

In many of the previous issues of Milk & Honey I have published articles about the Genimex involvement in Amadlelo Agri and the training of their staff. I applaud Sipho Nondlebe, who worked in New Zealand for a year as an intern and returned to manage one of the Amadlelo herds. Sipho recently won the sought after award of shortest intercalving period (ICP) for Master Dairyman 2021. Well done Sipho. See a write up of an interview that was conducted with Sipho by Simon on page 11.

In the previous issue of Milk & Honey I indicated that I would continue to try and develop an SA Breeding Worth based on our payment schemes. Well that task is near impossible especially with the large volumes of milk going through milk brokers/transporters before it ends up at the dairy factory. I have not given up and will keep at it.

We at Genimex are, as always at this time of year busy select bulls and arranging stocks for the year ahead and look forward to ensuring that your herds keep improving. The selection process is intense making sure that only the best gets into your cows.

May 2022 be good to you and I hope and trust that you enjoy this issue of Milk & Honey.

Chris Cloete

Ken Bartlett, Farmwise Consultant

GRASSLAND DAIRY FARMING IN SA

Farm Management changes I have seen in the last 15 years in Grassland dairying in South Africa.

In the first years I worked in South Africa the majority of South African Grassland Dairy farmers concentrated on the following five main factors:

1. Production per cow
2. Pastures - how you can grow more pasture
3. Animals - how to get cows in calf
4. Profit - how to survive
5. People - how to get people to follow your system no matter how complicated it is

Recently South African Grassland Dairy farmers have changed their emphasis and now concentrate on a 5 main factors. These are:

1. Profit
2. People
3. Environment
4. Pastures
5. Animals

Let's now look at these 5 factors in a bit more detail.

1. PROFIT

All dairy farmers know you need production to get profit. It is important to know your farms costs to get this production. These are the main costs it takes to produce a litre of milk. Do not include your personal costs, tax, personal drawings, debt servicing. Naturally the costs of production need to be less than the price you receive for a litre of milk to achieve profitability.

2. PEOPLE

Have a simple farming system that can be summarised in 5 factors. Then being able to describe the main tasks on the farm into 5 steps tasks such as calf rearing, milking, cleaning the milking parlour, feeding supplements, fertiliser spreading etc. Use photos and videos and not massive typed procedures.The aim is to train your staff and get them to buy into your system. Let them come up with ideas that may make the tasks simpler or more efficient. The Amadlelo programme does this well to ensure the young people are given responsibility so they grow in confidence and come up with new ideas to try. This enables many to become excellent managers. Naturally this means that fortnightly meetings are needed at the start so all staff end up having the confidence to contribute to the meeting. It is important to listen and evaluate contributions.

3. ENVIRONMENT

In the last 8 years I have seen the reduction of nitrogen use combined with better timing of application, which I believe will continue, with little reduction in pasture production. All farms now would have excellent effluent systems and research is being done on how to reduce methane production. Water usage on irrigation systems has improved and will continue to improve.

4. PASTURES

With the reduction in the use of urea, due to price and environment. Grassland Dairy Farmers are experimenting with the use of various clovers, both perennial and annual for Nitrogen Fixation which also helps in supplying an excellent high quality feed supply. Various different pasture species are being tried in different areas with mixed results. Grazing systems have improved so milking cows are being offered high quality feed at each grazing and residuals are at 1600 -1750 Kg DM/ha. This means that clovers can easily become part of the sward.

5. ANIMALS

South African Grazing Dairy Farmers farm in many different climatic areas and supply milk buyers that have different payment systems. This means there are many calving systems that are possible. It is essential that dairy farmers use the most profitable system for their climatic area and milk buyer.

This Means that they need to:

1. Have a Breeding Plan to ensure that they use the best Sires for their climatic area, payment system and calving pattern.
2. They ensure that calves are weaned at the right body weight [Weighed] and reared in a simple system that has minimal calf deaths less than 5%.
3. Ensure heifers achieve their target weights at Mating.
4. Ensure Mature Animals reach the right Condition Score at Calving and Drying off.

GOING FORWARD

In all Dairy systems (see point 2) one of the biggest problems going forward is ensuring that the farm business has suitable labour. Another one of the factors that Dairy Farmers are looking at would be Milking Interval, this can be:

1. Once A Day [OAD] either the whole season or when the herd is under stress. This is due to behavioural, heat and animal feed stress. This can mean smaller and thinner cows are on OAD over mating or at the start of calving and then go back to Twice A Day [TAD]. Also when people are under stress and herd goes on OAD for 7-10days. Here I am assuming SCC are 120,000 cells or less . The breeds that suit OAD milking best are Jersey or NZ crossbreds.
2. Three in Two. Three milkings in 2 days. Time Day 1 Morning milking start 6am afternoon milking 4.30pm [Cooler] Day 2 Milking 11am. Usually done in late lactation when afternoons are hot. The result means little drop in production.
3. 10 Milking's a week Monday to Saturday 3 in 2 and Sunday OAD.

The reasons why milking interval are being looked at is to enable farmers and labour the time to be involved in family activities. This usually makes it easier to organise time off. This results in positive family and labour relationships while overall profitability is maintained. A win win stuation. M&H

Ken Bartlett at the SA Dairy 2020 workshop in 2017


Haylon Smith (NZTE) Dale Armer, Colin Armer, Ken Bartlett and Jeff Every in serious discussion during the visit to the Seven Stars herd of Amadlelo Agri in Keiskammahoek.

SA DAIRY 2020

IN MARCH OF 2017 GENIMEX, LIC AND ACS HOSTED A SERIES OF VERY SUCCESSFUL WORKSHOPS IN SA, CALLED SA DAIRY 2020

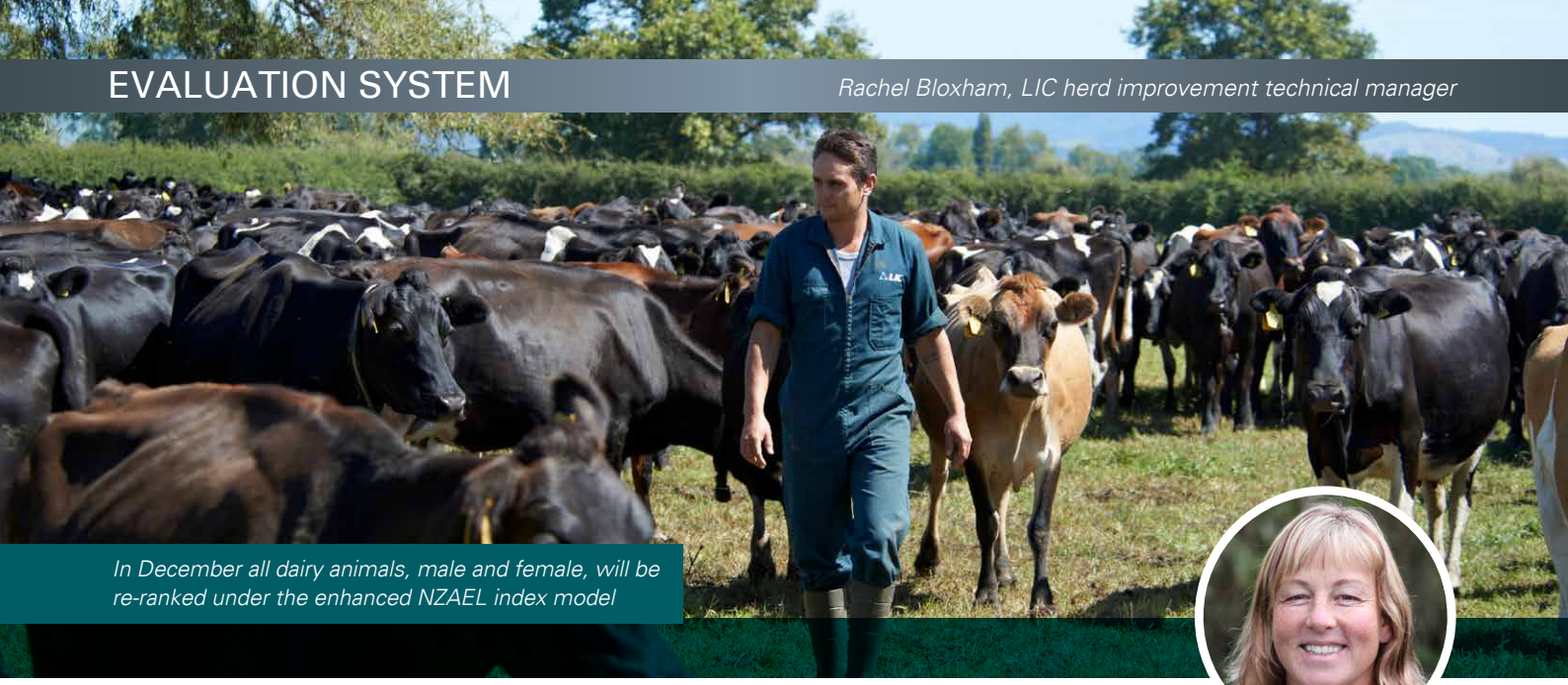
Ken was an integral part of the planning and execution of the workshops. Most importantly he managed to secure a team of incredible speakers and he then chaired the meetings in his knowledgeable and quietly assertive manner.

Those of us who know Ken have all been subjected to his way of pushing you into making your own decisions by starting a sentence with "If we were cunning should we not consider …"

Genimex and LIC planned another series of workshops for March 2019, which we unfortunately had to postpone due to the COVID 19 pandemic. The good news is that the next series of workshops is on the cards.

We have the funding now, we just need the opportunity. We are not going the route of a virtual conference as the participants must be able to get the benefits from in depth discussions and participation as they did during the 2017 workshops. Watch this space...

Rachel Bloxham, LIC herd improvement technical manager



In December all dairy animals, male and female, will be re-ranked under the enhanced NZAEL index model

WHAT'S NEW IN BW?

I The latest on NZ animal evaluation enhancements

Last December, New Zealand Animal Evaluation Limited (NZAEL) deployed a major upgrade of its evaluation processes, models, and genetic evaluation software as part of its ongoing programme of enhancements. As a result, the evaluations for all traits have changed slightly, with significant enhancements for fertility and survival. The changes commenced from the December update, bringing better accuracy in genetic evaluations and allowing for better breeding decisions. As with any update to animal evaluation, all new models and processes were rigorously tested and internationally peer reviewed before final sign-off by the NZAEL Board.

Fertility BV: The results of the National Breeding Objective survey reinforced the importance of this trait to dairy farmers. This new model puts more emphasis on fertility by spreading the breeding values wider. This allows greater visibility of where the bulls sit in relation to the genetic base of 0.

The enhanced fertility index has increased emphasis on key fertility phenotypes, including calving and insemination data recorded on first-calving to fourth-calving cows. There is less reliance on predictor traits. One change for calving data is the use of Calving Season Day (CSD), in recognition of the better fertility of earlier calved cows within the block. The cow who calved in the first 3 weeks receives a slightly higher fertility score than a cow that calved in week 5, for example. The definition for fertility BV will remain as CR42 (% calving within 42 days from the planned start of calving). Work is already planned to investigate and apply further enhancements to the Fertility BV, including the utilisation of pregnancy diagnosis information.

Functional Survival BV: Residual Survival and Total Longevity have been replaced with Functional Survival. Calculated in a different way and utilising actual phenotypic records, this new trait is the average probability of survival from one lactation to the next (for reasons other than reproduction and production). The trait BV will be reported as a percentage.

Excluding culling reasons associated with fertility and milk production, it focuses on other reasons why an animal leaves the herd. Given the nature of the trait, and the length of time it takes to obtain phenotypic records, (i.e. an animal surviving to fifth lactation), certain predictor traits are used to provide an early indication of functional survival. These traits include the breeding values for body condition score (BCS), legs, udder overall, and milking speed collected during daughter TOP inspections of pedigree and sire-proving herds.

Economic Values update: Economic Values (EVs) used in the calculation of breeding worth (BW) are a key consideration in all NZAEL updates. Economic weightings were updated in December to reflect the changing economic circumstance on farm and in the global marketplace, and to generate EVs for the new Fertility, Functional Survival BVs, and come April, Udder Overall BV(yet to be approved).

These enhancements are improving the national animal evaluation system to provide increased accuracy in genetic evaluations – information that will allow farmers to make better breeding decisions for their herd.

To keep aligned with the changes NZAEL has been working on, LIC's Research & Development team has replicated the changes in its own genomic evaluation system, which incorporates the Single Step Animal Model (SSAM).

Note: Any LIC bulls published by LIC will include genomic information, including for daughter proven bulls. Data published from NZAEL will not include genomic information and so please be aware that bull data will look different depending on which information source you use.

Teat Length BV (TOP): For the past four seasons phenotypic data has been collected on the teat length of sire proving daughters. This information, plus a desire to put more focus on teat length, has led to the release of the teat length breeding value.

Udder Overall BV – To be added April 2022: The national farmer survey highlighted continued focus on udder traits as important considering increased production per cow over the last decade and potential future farming practice changes. NZAEL is planning to incorporate udder overall into Breeding Worth in April 2022, (subject to approval by the NZAEL Board and Scientific Advisory Committee), when a small adjustment of trait emphasis in BW will occur to accommodate the new trait.

Hanna Driscoll, Product Manager, VikingGenetics

FARMERS ARE DEMANDING A SMALLER COW

VIKINGGENETICS
innovative breeding

In recent decades, the average cow on many dairy farms around the world has increased in size. And some farmers have realized that their cattle have become too large to be efficient.

It is a global trend. Dairy farmers using Holsteins have started to select smaller bulls for the next generation of milking cows. Hanna Driscoll, Product Manager for VikingHolstein explains that there are plenty of positive correlations with a smaller cow, which is also a more efficient animal.

"Farmers are demanding a smaller cow for many practical reasons, such as to avoid issues in the barn or milking parlor", Driscoll says.

TOO BIG TO BE EFFICIENT

Some farmers who used to select traits to boost production, without paying attention to the health traits, have now realized that their cattle have become **too large to be efficient**. The race now is to get back to a moderate frame size with cows that are more efficient.

"The cow size is a relevant element to consider for a farmer since it is an indicator of biological and economic efficiency. Cows that are more moderate in size are more efficient overall", she adds.

Hanna Driscoll explains that female fertility, calving direct, calving maternal, udder health, other diseases, feet and legs as well as young stock survival are indexes which have a positive correlation to the Saved feed index. This is of course related to a smaller and more efficient cow.

MAXIMIZE PROFITABILITY AND ANIMAL WELFARE

Genomics is a great tool to advance in the genetic progress, but it always requires the associated phenotypic evaluation to validate that progress. And this is what VikingHolstein does through the Nordic Total Merit (NTM) index.

"Breeding for a moderate sized cow has been part of the development of VikingHolstein, and our goal is to keep the moderate stature we have now", says Driscoll.

"The size of the cow in the efficiency equation is **more sustainable** than selecting for high production alone; in the end, what truly matters is profitability for the farmer and animal welfare requirements being met", she says. M&H

Graphic 1. Comparison of the genetic level for udder health, fertility, production and frame for Holstein bulls born in 2014 or later, per country.

	Production index	Udder health	Daughter fertility	Calving direct D	Calving maternal M	Frame
	105	102	102	100	102	102
	108	97	98	98	102	112
	107	98	96	97	192	117
	106	99	95	97	98	111
	107	98	94	97	99	111
	103	99	95	96	102	117
	107	98	100	99	101	113
	99	94	89	96	N/A	110
	93	92	98	100	N/A	85

Elizna Erasmus, Genimex

DAIRY FARMING EXPERIENCE
– AS PART OF TRAINING

When the opportunity to become part of the Genimex team crossed my path quite suddenly and unexpectedly earlier this year, I grabbed it with both hands. It is not every day you get the opportunity to experience work abroad, and especially after a year of being locked down, it was the perfect change of pace.

Unfortunately, or thinking back on it fortunately, the world being turned upside-down because of the Covid-19 pandemic was a spoke in the wheel of the plans to send me to Denmark for an internship at VikingGenetics. This forced Chris and Simon to come up with creative solutions to keep me busy while we wait for normality to return.

Luckily Genimex has great clients that trusted Chris enough to let me, a girl from the city, gain working experience on their farms.

My journey started off at Douglas and Isabel Dickson's farm in the picturesque mountains of Lydenburg. Having no practical farming experience, it was quite intimidating, but they made me feel right at home and I quickly adjusted to life on the farm.

The Dicksons run the farm with the help of Lihle the assistant manager. During my stay they were milking roughly 250 cows, twice daily in a 20-point herring bone parlour.

Jan Rossouw, Elna Rossouw, Dean Muller, Elizna Erasmus, Jorayne Crouse

Their pasture-based system was a good introduction to the daily tasks on a dairy farm. There I gained confidence in working with the cows and learned the basics of working in the parlour. After a few very slow tries, and a couple of fumbles I too got into the swing of things and the attachment and detachment of the clusters became a fun morning workout session.

The calves are raised by Isabel and her excellent team, it did my animal loving heart good to work alongside people who care for the animals just as much as I do. I was introduced to the reality of unfortunate calf losses due to many reasons of which negligence is certainly not one, but I experienced the feeling of accomplishment when the calf that I placed in the calf pens could be moved out.

One thing that will always stick with me is the pregnant heifer who was down with 3-day-stiffness the first weekend after I arrived on the farm. Lihle and I visited her every day, making sure she had water and urging her to get up. She almost started to feel like a friend. After a long month and a half, with loads of patience and help from a skilled tractor operator, she finally got up in time to calve down and return to the main herd. It was no fun and games to get her parlour trained, but as if she was giving me a going away present, she walked into the parlour on her own for the first time the week before I left the farm.

One of the main things, apart from all the practical experience gained, that I take away from my time at the Dicksons is that working with compassion and empowering others comes back to you in the form of loyalty and hard work by your team.

My time ended in Lydenburg and I embarked on the next leg of my journey to Maluti Jerseys to work with Jan and Elna Russouw. With the assistance of their son and manager Dudley, newly appointed assistant manager Dean and Jorayne who heads the team working with the calves and sick animals, they run a full feed dairy farm outside of Bethlehem.

Gone were the green rolling hills of Mpumalanga and there I was in the southern Free State in mid-winter. A completely different environment and system to what I had gotten used to over the last couple of months.

Apart from the herd being twice as big, the parlour is equipped with a 40-point rotary system, and cow data is recorded daily by transponders to monitor cow health. In many ways the automated system makes it a lot easier, you immediately detect cows that are not performing as they should and, in most cases, cows can be treated before it is too late. But it also increases the workload and the amount of contact and interaction there is between worker and cow. I would have never thought that I would get so used to doing rectal examinations and being covered in cow dung as I did while working at the Russouws. It gave me new respect for this line of work!

I switched between the main parlour and the separate parlour where newly calved cows get milked, and the sick cows get treated. It was a whole different world. I could see the genetic traits I read about in real life and learn to understand why health, production and conformation all have a place in a selection index.

We had an unfortunate case of blue udder which was as interesting as it was horrifying and ended regrettably with the cow being culled, but I also felt the sense of achievement when a cow that was sick is ready to return to the main herd again.

I've seen many calves being born, pulled a couple into the world, and made sure they got the colostrum they needed. I tubed sick calves and felt the loss if they were too far gone, but also the joy when they start drinking on their own again.

We had extremely cold mornings where everything is frozen come milking time at 4:30, late nights when vacuum pumps give in halfway through milking and hot days vaccinating calves with the sun beating down on us. All of this made worthwhile by witnessing the breaking of dawn and the most beautiful sunsets.

My experience on both farms have been so different in comparison, but one was not more valuable than the other. I feel incredibly grateful that both the families were so open to accept me into their homes and trust me with their animals. The lessons I learned will not only benefit my career going forward but also impact my personal life in ways I did not foresee.

As the world is returning to normal again plans are in place to start in with VikingGenetics soon and I cannot wait to see how the final adventure will shape and prepare me for my future at Genimex.

Peter Larson, VikingGenetics

EASIER BULL SELECTION WHEN USING VIKINGJERSEY BULLS

VIKINGGENETICS innovative breeding

VikingJersey prioritize that all should be able to use our bulls in their breeding program. Not having trouble to find out whether bulls are pure bred or if the bulls are carriers of monogenetic traits and defects. VikingGenetics focus on making all bulls available and maximizing genetic progress for all Jersey breeders, no matter what goal they have.

Back in 2010 the VikingJersey Breeding Committee decided to stop marketing bulls not being purebred. The decision was triggered by the "Gratitude case" (Gannon, Garden and a few others) in the first year of the genomic era. From then on, the aim has been only to market bulls that are minimum 99.5% purebred Jerseys.

By using purebred bulls, you minimize the risk of introducing unwanted monogenetic lethals or defects from other breeds into your Jersey herd. You also increase the chance of selling surplus offspring, as not all will buy animals that have other genes than Jersey in their pedigree.

MONOGENETIC TRAITS & DEFECTS CAN BE AVOIDED BY SELECTING VIKINGJERSEY BULLS

Since 2018 VikingGenetics has focused on only marketing bulls that are non-carriers of known monogenetic traits (JH1, JH2 & JNS). This to ensure that VJ bulls are not causing fertility problems or defects of any kind. The decision only to include non-carriers in the VikingJersey breeding program is part of our sustainability profile.

Jersey bulls from VikingGenetics makes selection easier and enables you to focus on genetics and pedigrees, with less worries on purity and unwanted lethals, resulting in an easier life as a Jersey breeder.

Darren Sutton, FarmWise Consultant, Waikato

WOULD YOU WORK FOR YOURSELF?

FarmWise consultant Darren Sutton outlines how to create an environment on farm which will keep staff in the long-term.

Would you work for yourself? That is probably one of the hardest questions any employer can ask of themselves! It certainly can bring clarity and some truths to the surface.

New Zealand is operating in an economy where there is intense competition for good staff. Currently unemployment figures are less than 5%. As well as this, it is hard to find the right personnel fit for your farm when competing against other countries who have easier immigration policies currently.

So how do you become one of those employers who seems to always find and retain good staff?

The following points outline some of the steps which you can take to create an environment on farm which will keep staff in the long-term.

COMMUNICATE A CLEAR VISION

When employees understand what the big picture is and why things are done the way they are, this helps create understanding of purpose and buy-in. So, communicating to staff at the start of each season what the measurable goals are can create more invested and focused staff.

CONNECT VISION TO DAILY TASKS

If employees understand how the day-to-day tasks link to the goals for the season, then the everyday stuff will happen more consistently and fewer short-cuts get taken. These small steps help achieve the bigger vision/targets set out in point.

PROVIDE REGULAR FEEDBACK AND COACHING

This is probably one of the easiest and most overlooked area of being a good boss. In the busyness of the days and weeks, we often don't pause and make the most of those teachable moments that arise. We all desire feedback. New and younger staff have lots to learn and also need to learn how you like tasks done, which may be different from a previous boss. If they feel invested in, they will do the extras without prompting.

MAKE WORK FUN

Many tasks can be repetitive and mundane. Look for ways to make these tasks more interesting and share these around staff so no-one gets stuck with shifting the effluent irrigator every day! Creating team social events can also build better teamwork and understanding outside of working hours.

CARE FOR PEOPLE

Workers are not machines, and we are all special snowflakes to some degree! By getting to know more about family needs and stresses, you can build better understanding amongst the team. This helps you also figure out what is most important for rewards and recognition. More money may not be a big driver, but flexible hours to attend kids' school and sporting events might be highly valued. Can you involve staff in designing the rosters to account for the work demands of spring and then the quieter months of summer? Housing also falls into this category of valuing people. An employee in good warm, dry accommodation is going to be much happier and motivated than one who isn't.

DEVELOPMENT AND TRAINING

Do you know what career goals your staff have? What training on-farm and off farm might they be interested in completing? Allowing paid time off farm for these courses and even paying for some of these once completed will not only benefit your employees, but will also benefit you with the new learned skills that they bring to the farm.

TEAM MEETINGS AND SEASONAL REVIEWS

Hold regular team meetings that allow weekly plans to be made. This helps provide structure for the coming week, which many staff appreciate. In these meetings take time to review how a major piece of work went (like calving or mating), looking at what went well and what could be changed. Let all views and ideas be expressed. If you listen, you will find better ways you had not thought of!

If you want to evaluate yourself further, then google DairyNZ Good boss test. This questionnaire will highlight what areas you can improve on. Be even more daring and get your staff to fill it in!

Simon Alderson-Smith, Genimex

SIPHO NONDLEBE

MASTER DAIRYMAN AT AMADELO AGRI 2021

Middledrift Dairy (Pty) Ltd of Amadlelo Agri recently won an award for Best Inter-Calving Period at the 2021 Master Dairyman competition. We caught up with senior manager Sipho Nondlebe regarding this, and other, incredible achievements.

AMADLELO AGRI
TOGETHER WE GROW • TOGETHER WE REAP

How valuable is this award?

It's fantastic to be recognised for hard work and the farm really appreciates it.

In 2018 you travelled to New Zealand for an internship programme set up by Jeff Every (former CEO of Amadlelo), Chris Cloete (Genimex) and Livestock Improvement Corporation (LIC), Farmwise, New Zealand. What influence did your internship have on this award?

In New Zealand they stick to the basics and keep things straightforward, in SA we try to complicate things too much. For mating, you need to focus on heat spotting and well-trained staff. In NZ they focus on labour efficiency and training staff. In SA we focus too much on the cows and not the people. Refresher courses are vital as many of the "old hands" are the ones that take their jobs for granted.

Amadlelo receives training from Genimex agent Hendrik Bezuidenhout, how does this benefit Middledrift?

Hendrik is great, and his AI and heat spotting training is invaluable to Amadlelo. This is how we get better at farming. The only issue, at times, is the language barrier as not everyone speaks English or Afrikaans. This is part of the bigger picture where training programmes are needed but aren't always easily available.

Do you feel internships are needed for up-and-coming farmers? How do they benefit SA?

These programmes are vitally important to ensure new managers get exposed to different systems. The NZ focus on basics and proper management ensure and develop adaptability.

Would you take on an intern?

We get interns from the Department of Agriculture, Land Reform and Rural Development who stay with us for about two years, and we give them the skills and training to empower the next generation.

What does SA dairy need to ensure food, and indirectly, job security? Where is the shortfall and how do we get youngsters into dairy?

The industry needs more support from government. Dairy farm numbers are reducing and therefore jobs are lost. Government should stop tenders and fund any dairy project being operated by a qualified farmer to ensure job creation.

As a manager, what would you like to do now, or where would you like to visit?

A manager's tour to NZ would be great. My role is very different now and I would like to build on my experience and improve my management. You learn every day so any opportunity to learn is greatly appreciated.

What's the next award that is in your sights?

I want to be the overall performer of the year and run the most cost-efficient farm in South Africa.

What would you like to say?

Rob Ballantyne taught me a clear vision and that job satisfaction is important. Mental strain is a problem, so it is important that you take care of yourself. Don't sacrifice your ethics or your word for money.

Info on the farm?

164ha under irrigation, currently 500 in milk with a peak of 650 cows. Cows peak at 24 L / day with solids of 4,4 % butterfat and 3,7 % protein. Inter-Calving Period is 367 days. M&H

Malcolm Ellis, General Manager, LIC NZ

COW EFFICIENCY NOT COW PRODUCTION

Dairy farmers should be concentrating on cow efficiency rather than per cow production… that's the view of LIC's General Manager for New Zealand Markets Malcolm Ellis, who delivered a webinar on the subject in January, saying efficiency was pivotal to delivering a milking herd geared up to meet future challenges.

As a fourth-generation dairy farmer, he's seen the industry move through many different cycles, but sees the challenges facing producers in the next few years as some of the most difficult they have yet to meet.

"Today the letter P stands for profit, not production, irrespective of the farm system you operate. Ten years ago, it was all about production, with the emphasis on working with bigger cows able to deliver higher milk volume. Steadily we have seen the metric changing to kgs/MS / kgs/lwt becoming the key driver. This does not mean that smallest is best as associated non-negotiable per cow costs will not be able to be diluted by the associated lower per cow productivity." Citing two key dairy areas in New Zealand, he mentioned the irrigation costs in the Canterbury area and the wintering costs in Southland. They remain the same regardless of the cows being milked.

"My key message is not to under-estimate the need to have the right cow for the job," he says. It's critical that you identify the best cow for your own situation. I've seen great examples of Holsteins, Friesians and Jerseys performing well, but different breeds will be at their best in different circumstances."

"In a strong milk price environment, it will be profitable to supplement cows at seasonal times of feed deficit but unfortunately too often the introduced feed is merely a substitute to the utilisation of the cheaper feed in the form of pasture. My reaction is to conclude that too much feed is being used to substitute pasture. Ask yourself whether you are making money out of milk, or milk out of money."

Malcolm says that for 23 consecutive years up to 2015 we've seen cow numbers increase annually in New Zealand by greater than or equal to 100,000 cows per year. The peak was in 2014/15 where the national herd reached 5 million cows, but now this is levelling off and forecast to gradually decline. It is universally accepted that we have now reached 'Peak cow' and as we navigate a landscape of fewer cows those cows are going to have to be better to maintain farm profitability and the posterity of farming families and communities.

"Believe me, the role of herd improvement is going to be more important than it's ever been. We must be milking better cows and better cows must be defined as measured by efficiency of performance"

Environmental and Regulatory considerations in New Zealand are pointing to a 15% reduction in cow numbers by 2030 – in the next eight years – to reduce carbon footprints. While these future predictions vary in different countries around the world, we are all heading in the same general direction. "In the past many have made the mistake of believing that if they are milking less cows, they need to milk bigger cows. This is simply not true."

2020/21 full season - Mature cows - min DIM = 200

Ranked by Liveweight BV	No. of Animals	Avg KgMS	Avg Bw	Avg PW	Avg LW	Avg Livewt BV	Avg fertility BV	Avg Friesian 16ths
group 1	137	635	-82	-17	-12	75.1	-4.1	15.4
group 2	137	653	-57	2	7	61.9	-3.4	14.6
group 3	138	643	-19	21	16	43.1	-2.3	13.1
group 4	137	656	9	94	99	16.0	-2.4	9.7
group 5	137	639	49	130	125	-9.2	-1.5	7.0
	686	**645**	**-20**	**46**	**47**	**37.4**	**-2.7**	**12.0**

Reset looming following 23 consecutive years of cow growth.

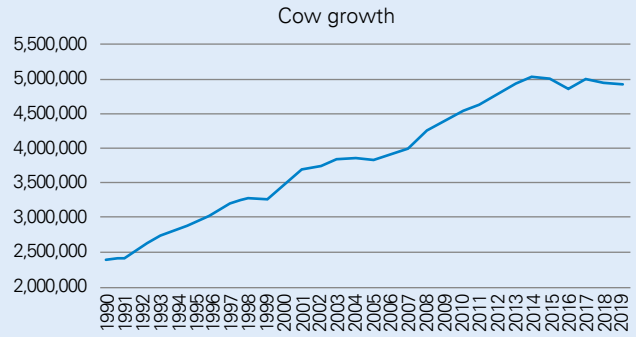
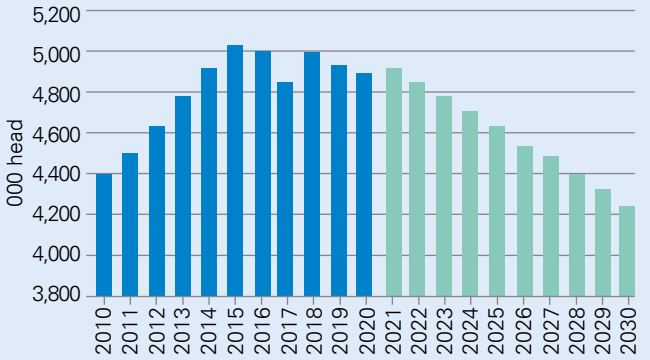


FIGURE 1: Cow Numbers



NZX: FLIGHT PATH TO THE FUTURE OF NEW ZEALAND DAIRY

Actual

Forecast

SO, WHAT DOES THE FUTURE HOLD?

"We need to recognise the need to lift up the value of cow efficiency to enhance farm system profitability. What is the scale of the contribution genetic gain can make to the future profitability and prosperity to a given farm system? We will need to be more efficient and will need to produce at least as much from less, while maintaining profitability and competitiveness.

"It's an important balancing act. We need to protect the next generation. I want there to be opportunities for my children within the dairy sector."

NZ Dairy statistics reveal that over the past 10 years genetic and phenotype trends have combined to add 5.9kgs/MS/cow each year – with 2.7kgs/MS/year coming from genetics (approx. 50% of the gain) and the balance coming from the environmental considerations.

"BW has increased over the same period by, on average, 9 BW units per year. Can we challenge ourselves and increase this rate of gain to 15-20 points if we put increased focus on genetic gain?"

Malcolm refers to the sharpening focus in NZ on herd improvement, pointing to the difference in efficiency between the top and bottom quartiles of a dairy herd, and saying that while increased use of sexed semen speeds up the opportunity for genetic gain, it's the 160kgs difference in milk solids between the top and bottom quartiles within herds that provides the key opportunity. "In reality we already have the cows with the desired levels of productivity, it's just that we need more of them!

He is certain there is no justification for milking bigger cows if one is in search of advancement within the farm system. There's a limited correlation between the size of the cow and the efficiency of her output. Bigger cows often have significantly poorer fertility, which is undesirable because getting as many cows as possible in calf inside the first 6-weeks of mating is a key focus for efficient block calving farm systems. "If we're not milking more cows we're going to have to be milking better cows.

Cow efficiency defines 'good cows'. Profitability, fertility, efficiency, and smart cow selection will define success as we move forward. M&H

Willem van Lingen

LA MONTANARA

'N TROTSE FAMILIE BESIGHEID

Die Leichers is soos hul van aandui van Duitse afkoms. Pa Dieter Leicher verkoop in 1980 sy plaas en sakebelange in Mariëntal en koop die plaas La Montanara so 10km buite Ashton op die R60 oppad na Swellendam. Op daardie stadium produseer die plaas graan, wingerd en pere. Later het daar selfs 'n paar skape en vyebome bygekom.

In 1984 besluit sy 2de oudste seun Eckard om plaas toe te kom. Hy koop toe 'n stroper en begin kontrak werk in die omgewing doen. Hy lag lekker as hy vertel dat die plaas se omset in daardie jare R8000/jr was. In die tyd koop sy pa 5 Holstein koeie en begin melk lewer vir 'n kaasfabriek op die buurdorp Bonnievale, maar Eckard laat sy pa mooi verstaan dat hy niks met n melkkoei te doen wil hê nie. Stadig maar seker brei die kudde uit en Eckard raak teen sy sin al meer betrokke by die kudde.

In 1993 was die melkprys ongeveer 83c/lt en word daar weens surplus produsie deur produsente 'n kwotastelsel deur die fabriek ingestel. Alle surplus melk word aangekoop teen 52c/lt. In die tyd neem hy die plaas by sy Pa oor en besef dat die som nie kan klop nie. Hy begin toe die surplus melk in Ashton verkoop totdat die fabriek hom stop omdat hulle lede verplig is om alle melk aan hulle te lewer. Eckard is 'n persoon wat nie terugdeins vir uitdagings nie en hy en sy vrou Kim gaan doen 'n eendag kaasmakerskursus op Elsenburg. Baie vinnig daarna begin hy om met die maak van fettakaas te eksperimenteer en vat die gedagte om met 'n kaasfabriek te begin by hom pos.

In 1994 bedank hy as produsent by sy melkkoper en begin voltyds fettakaas maak wat hy aan die gastebedryf bemark en varsmelk in Ashton en omliggende dorpe bemark.

In 2000 voer hy die eerste ultra – filtrasie apparaat uit Denemarke in vir die maak van romerige Deense fettakaas. In kort kom dit daarop neer dat slegs oortollige vog verwyder word en nie die wei- protein en bottervet soos tydens die tradisionele proses nie. Sedert 2001 lewer hy al sy produkte hoofsaaklik aan Woolworths en omdat hy meer waarde tot sy produkte wil voeg en produkreeks wil uitbrei, verkoop hy sy Holsteins (80 koeie) in 2002 en koop Jersey's aan by verskeie produsente. Echard reken dat hy die ekonomie van sy fabriek baie verhoog met Jersey's deurdat hy van 20 000 lt Jersey melk ± 2.2 ton harde kaas vervaardig teenoor ± 1.8 ton uit Holstein melk.

In die tyd hou hy 'n vergadering met sy 2 dogters en 2 seuns en 2 skoonseuns en sê dat hulle meer as welkom is om by die besigheid betrokke te raak. Geld het hy nie vir hulle nie, maar geleenthede is daar baie. Die fabriek asook sy produkreeks groei en brei so uit dat hy by verskeie produsente melk moet inkoop. Hy koop ook die buurplaas by en begin met varkboerdery en slaghuis om die afval produkte uit die fabriek te benut wat sy skoonseun Marius tans bestuur. Dit gee aanleiding daartoe dat hulle 'n Deli op buurdorp Robertson begin om hul suiwel- en vleisprodukte te bemark. Die Deli word deur sy ander skoonseun Rohan bestuur. So kom 'n pragtige en trotse familie besigheid tot stand wat tans bestaan uit:

Eckard Leicher (Snr) – CEO.

Karla Steyl (Dogter) – Produksie bestuurder.

Rohan Steyl (Skoonseun) – Deli bestuurder op Robertson waar suiwel- en varkprodukte bemark word.

Heidi Fourie (Dogter) – Kwaliteits bestuurder.

Marius Fourie (Skoonseun) – Bestuurder varkplaas en slaghuis.

Eckard Leicher Jnr (Seun) – Plaas- en kuddebestuurder.

Saam met die familie is daar Tobias Mutota wat saam met Pa Dieder as 22jarig van Mariental gekom het en toesig in die melkstal hou, Elrien Heyns wat die kalwers grootmaak en sorg dat die kudde se admin op datum bly, asook 'n gedugte span kantoor- en fabriekspesoneel.

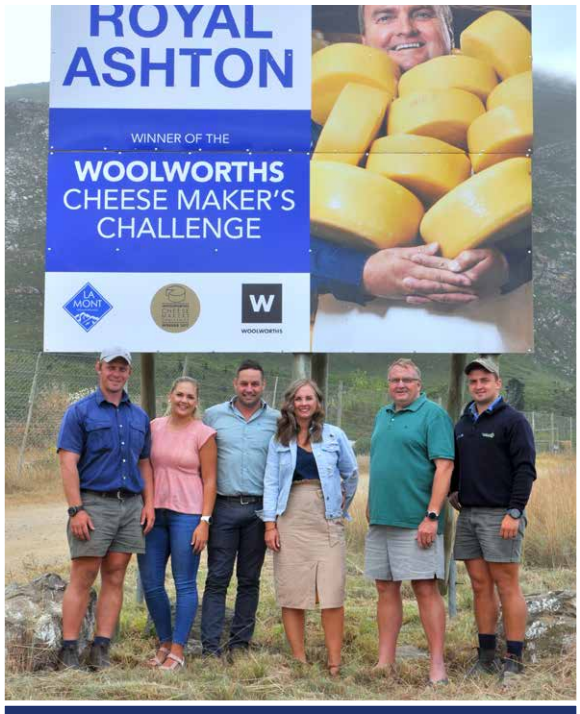
Gelykpad was dit verseker nie. Echard verloor sy vrou Kim in 2002 op 'n baie jong ouderdom en 6jr terug verongeluk sy oudste seun Rudi tragies.

Tans melk La Montanara so 650 koeie wat van oral ingekoop is en koop nog Jerseymelk aan van 2 produsente in die omgewing.

Produksie van kudde is so 21 – 23 lt/koei met Bv. van 5.1% en Prot. van 4.01%.

Die koeie in melk word voorsien van 'n volledige rantsoen wat bestaan uit mielie- en hawerkuilvoer, mieliemeel en canola oliekoek. In die stal word 'n 12% prot. kragvoer voorsien, terwyl die droëkoeie hoofsaaklik op weiding is.

La Montanara gebruik net Deense genetika in die kudde omdat hulle 'n baie betroubare stelsel het, hoogste vastestowwe in die wêreld het, baie klem lê op vrugbaarheid, uiergesondheid en langslewendheid.



Vlnr: Marius Fourie, Heidie Fourie, Rohan Steyl, Karla Steyl, Eckard Leicher (Snr), Eckard Leicher (Jnr)

Sy vertroue in Viking genetics (Genimex) is bevestig nadat hy eers vir Rudi en toe vir Echard jnr. saam met Genimex op 'n studietoer na Denemarke gestuur het. Bulle wat reeds die afgelope paar jaar gebruik is, is Zuma, Husky, Hilario, Quintana, Garant, Dandi. Tans gebruik hy Lando, Gislev, Hays, asook Gislev sexed semen.

Oor La Montanara se talle toekennings en pryse is Echard baie beskeie, maar ook tog trots. Dit wys dat hulle op die regte pad is.

Daar is nog baie toekomsplanne vir La Montanara. Hulle beplan om die kudde uit te brei na 1200 – 1500 koeie, die vastestowwe te verhoog en die Deli's uit te brei na omliggende dorpe.

Genimex is trots om La Montanara as klient te hê en wens hulle alle sukses toe. M&H

LA MONTANARA TOEKENNINGS

- 2016 MPO Achievent Award.
- SA Suiweltegnologiese Vereniging se toekenning vir bydra tot ontwikkeling in die suiwelbedryf.
- Talle goud en silwer kaas toekennings van Woolworths.
- Agri Expo – South African Dairy Champion.

BODY CONDITION SCORE AND MATING OUTCOMES

Body condition at calving and mating is one of the most important factors to get right for good herd mating outcomes. Recent LIC research in NZ looked at its impacts in cows in commercial dairy herds. Dr Lucy Coleman explains.

Body condition score (BCS) is a measure of a cow's fat reserves and is a good indicator of energy balance. The fat reserves on animals are important in early lactation, buffering the peak in energy demand and milk supply against feed shortages.

A rapid drop in BCS can increase the time for a cow to resume cycling post-calving, reduce the conception rate and increase the risk of reproductive disorders and health problems like metabolic diseases.

DairyNZ has BCS targets for cows at both calving and mating. At time of calving, 2-year-old and 3-year-old cows (first- and second-calvers) have a target BCS of NZ 5.5, while older cows have a target of 5. Between calving and mating, cows should not lose more than NZ 1.0 BCS.

This translates to a target BCS at mating of NZ 4.0 or greater for older cows and 4.5 for 2-year-old and 3-year-old cows. In addition, DairyNZ advises no more than 15% of animals to be above the target, as well as no more than 15% being below the target.

Individual BCS and early aged pregnancy testing data recorded in MINDA® allowed us to investigate the association between pre-mating BCS and subsequent reproductive outcomes. 199,724 cows calving in the NZ spring of 2019 had accurate calving date records, pregnancy testing results aged at between 35 and 122 days of pregnancy and individual BCS recorded within 50 days of their herd's mating start date.

The pre-mating BCS figures indicated that, on average, 4-8 year old cows met their mating BCS target of 4.0, with an average BCS of 4.38, and only 7% below target. The 2-year-olds are also, on average, meeting their target of 4.5, with an average BCS of 4.51. However, 28% of 2-year-olds were below target. In addition, 3-year-olds in the group fell short of their BCS target of 4.5, with an average BCS of just 4.34, and 44% of them being below target.

Proof of the link between BCS and reproduction is in the numbers. Cows at the recommended BCS just before mating (4.5 for 2- and 3-year-olds, and 4.0 for 4-8 year olds) or half a condition score greater, had a higher 6-week in-calf rate and a lower not-in-calf rate. Thinner cows took longer to get in-calf, meaning a later calving date next year, or potentially not getting back in-calf at all! Overly fat cows, likewise, suffered from poorer reproductive performance.

Body contidion score prior to mating and 6-week in-calf and not-in-calf rates, by age group

Body condition score prior to mating (1-10 scale)						
	3.5	4.0	4.5	5.0	5.5	6.0
Number of cows	10,823	64,914	81,284	35,116	6,025	1,552
2 Year Old						
6-week in-calf rate	58.0	68.9	74.3	76.4	74.3	73.2
Not in-calf rate	20.4	13.3	10.3	9.5	11.9	12.2
3 Year Old						
6-week in-calf rate	64.4	69.7	72.6	74.2	72.3	65.8
Not in-calf rate	14.7	11.9	10.6	10.1	12.4	15.1
4-8 Years Old						
6-week in-calf rate	61.2	66.1	67.6	67.2	62.8	60.9
Not in-calf rate	194	16.1	15.0	15.5	17.7	21.6

The condition of all your cows is important but putting in extra effort to the 2-year-old and 3-year-old cows to meet those slightly higher targets will reap rewards in reproductive performance and keep them in the herd longer.

We recommend condition scoring your herd regularly, with emphasis on late lactation, pre-calving, pre-mating and at the end of mating.

Monitoring individual cows against their target for the time of year allows farmers to intervene early to ensure they meet their key targets at calving and mating. Once there, remember to try to hold the cows in the target zone, as overfat cows also suffer from poorer reproductive performance.

Your advisors can discuss the best strategies for your farm to achieve this, such as preferential feeding, once-a-day milking, treating underlying illnesses, setting tailored dry-off dates, or a combination of these.

For more information on BCS management check out the 'DairyNZ Body Condition Score Reference Guide'.

Hanna Driscoll, Product Manager VikingHolstein

VIKINGHOLSTEIN

A SOURCE OF HIGH PRODUCTION AND FEMALE FERTILITY

VIKINGGENETICS innovative breeding

The breeding program for VikingHolstein proves that it is possible to breed for high production and at the same time, have high genetic progress in health and reproduction traits.

A large study, based on around 55,000 bulls with **Interbull proofs**, investigates the genetic level of daughter proven bulls, containing bulls born between 1995 and 2015,

FEMALE FERTILITY

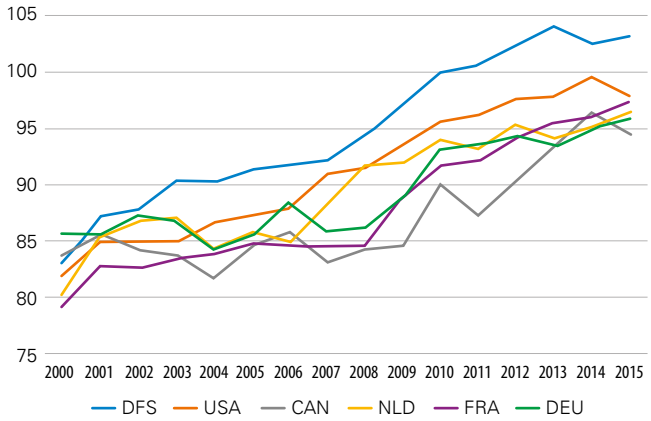
The figure shows the genetic level of bulls by country and birth year for the female fertility trait "first to last insemination for cows". This is the most economically important trait in the female fertility index.

The genetic level of the bulls from VikingGenetics clearly shows a very superior level for the trait "first to last insemination for cows".

The superiority is more than 6 EBV units in 2015, which is a significant difference realizing that the heritability of the trait is low. This understanding relies on the fact that you don´t make huge progress from one generation to the next on low heritable traits.

A Holstein cow has the potential for high production, but good economy at farm level also depends on other traits such as female fertility. That is why we are proud to say that **VikingHolstein is a source of high production and the highest female fertility among Holsteins in the world.** M&H

Figure. Genetic level by birth year depending on country for the fertility trait 'first to last insemination for cows' (Based on data from Interbull).



BEHAAL JOU TEELDOELWITTE MET DIE REGTE BRONNE EN HULPMIDDELS

CINERARIA JERSEYS

JOHN WALKER – OUPLAAS GREYTON

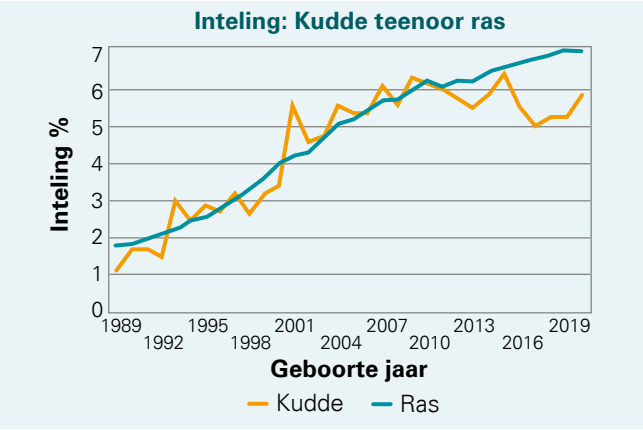
Om 'n teeldoelwit en beleid te hê raak al meer krities en is ontsettend belangrik om die moderne suiwelboerdery te laat oorleef. Dit is presies dit wat John Walker genoodsaak het om ongeveer 7 jaar gelede belangrike besluite te neem.

Cineraria Jerseys het sy ontstaan in die vroeë tagtigs gehad met John se Vader, Cyril wat sy loopbaan destyds in die Poskantoor verruil het vir 'n baie klein begin met 'n Jersey-kudde van ongeveer 30 koeie. Hy het hierdie kudde opgebou tot een van die beste Jersey-kuddes in ons land met nou ongeveer 1650 koeie in melk. Die totale kudde bestaan uit 1800 koeie en meer as 1000 verse. John bestuur die kudde reeds meer as 15 jaar met Cyril en sy vrou Anna wat 'n welverdiende rus op Greyton geniet.

1. *Eerstens het John besef sy gemiddelde inteling vir die kudde is besig om buite beheer te raak en dat hy drasties iets sou moes doen.* ***"Inteling veroorsaak hoofsaaklik verlaagde vrugbaarheid en kalfies wat moeiliker oorleef. Die effek van inteling kan reeds by sommige diere by vlakke so laag as 6.25% waargeneem word "*** **– aldus SA Stamboek**.
2. Gesondheidseienskappe soos uiergesondheid, vrugbaarheid en kuddelewe moes dringend aandag kry. In die verlede, soos wat in meeste suiwelkuddes gebeur het, is soveel druk op melkproduksie geplaas sonder om aandag te gee aan hierdie eienskappe, wat so belangrik is om ekonomies doeltreffend te produseer.
3. Produksie van hoër kilogramme vastestowwe sonder om melkproduksie dramaties te verhoog, was 'n verdere doelwit wat in die teelbeleid ingesluit moet word.

SA Stamboek *is 'n organisasie wat hom beywer vir die registrasie en aantekening van die geboorte- en eienaarskapinligting van suiwergeteelde diere. Verder is hulle gemoeid met die aantekening van produksiedata asook die verwerking van hierdie geïntegreerde stamboom- en produksiedata tot analises. Die bepaling en beheer van die gemiddelde inteling van kuddes, is 'n belangrike deel van hul dienste. Met die gebruik van 'n paringsprogram (SADAIRYBULLS.com) word die suiwelboer gehelp om inteling onder beheer te hou, asook om doelwitte soos uiergesondheid, lanklewendheid en produksie te behaal.*

John het sedert 2015 aktief deelgeneem aan hierdie program en inteling was hoofsaaklik die rede. Sy kudde se gemiddelde inteling was toe byna 6.5% met die Jersey-ras s'n selfs hoër. Die Jersey-ras was in die verlede hoofsaaklik afhanklik van Noord-Amerikaanse genetika wat hierdie probleem verder vererger het. Alternatiewe genetiese bronne soos Denemarke en Nieu-Seeland verskaf egter welkome keuses wat hierdie probleem grotendeels kan oplos. Denemarke het uitstekende sukses behaal met die aksies wat hulle sedert die vroeë negentigs geloods het om juis die klem op gesondheidseienskappe in hul nasionale teelbeleid te plaas. Volgens die onafhanklike organisasie **"Interbull" wat verantwoordelik is vir Internasionale Genetiese Ontledings**, het die Deense populasie by verre die hoogste genetiese vlakke vir vrugbaarheid, uiergesondheid en die produksie van hoë vaste stof melk. Dit is dus geen wonder dat John daarin kon slaag om sy gemiddelde inteling in 'n relatief kort periode op ongeveer 5.53% te kon laat stabiliseer nie!



Hieronder kan die effek van doelgerigte teling met die hulp van stelsels soos dié wat SA Stamboek beskikbaar stel, gesien word. Die gemiddelde teelwaarde van +0.13 vir botervat %, teenoor die ras se +0.01% en proteïen van +0.09% teenoor die ras se +0.01%, is 'n duidelike bewys dat daar uitstekende vordering is. Dit is egter die teelwaardes van kilogramme bottervet en proteïen wat nog meer indrukwekkend is, +3.9 vir bottervet en +2,8 vir proteien teenoor die +0,6 vir bottervet en +0.8 vir proteïen van die ras. Die gemiddelde teelwaardes vir die verse is selfs nog meer indrukwekkend.

Genetiese vlakke vir koeie en verse				
	Koeie		Verse	
Teelwaardes (EBVs)				
	Kudde	Ras	Kudde	Ras
Bottervet	3.9	0.6	11.3	5.1
Proteïen	2.8	0.8	6.4	3.9
Bottervet%	+0.13	+0.01	+0.26	+0.04
Proteïen%	+0.09	+0.01	+0.16	+0.03
Somaties	-8.0	-2.7	-13.8	-6.9
Kudde Lewe	104.6	102.9	106.9	104.3

SA Stamboek 19/01/2022

Soos reeds genoem is kuddelewe en uiergesondheid deel van John se teelbeleid. Hierdie eienskappe het 'n direkte gevolg op die ekonomiese volhoubaarheid van melkkuddes. Sy teelwaardes vir somaties (verse) van –13.8 (hoe groter die minus hoe beter) teenoor die ras se –6.9 is beslis uiters waardevol. Uiergesondheid is een van die 3 belangrikste redes waarom koeie die kudde verlaat. Die gemiddelde teelwaarde vir kuddelewe het gestyg tot 106.9 (verse) teenoor die ras se 104.3.

Hierdie resultate is 'n duidelike bewys dat indien suiwelboere wil oorleef, hulle die regte besluite so gou as moontlik moet neem en dit toepas deur 'n eenvoudige maar doelgerigte teelbeleid in werking te stel. Die keuse van gebruik van inligtingstelsels en veral die gebruik van genetika uit bronne waar betroubaarheid van data ononderhandelbaar is, is egter essensieël.

Die keuse van bulle word bepaal deur die verwagte teelwaardes van nageslag op spesifiek hierdie eienskappe. Die eerste bulle van **VikingGenetics, verskaffer van Deense Jersey bul-semen**, was bulle soos VJ Hilario en VJ Husky. Die bulle wat tans gebruik word is: **VJ Nibiru, VJ Domino, VJ Jojo, VJ Bernal, VJ Giga en VJ Cozy.**

Dogters van bulle soos VJ Garant, Hitman, Huzar, Quintana, Haley, Hirts en Lobo is nou in die melk. VJ Garant is huidiglik die beproefde bul met die hoogste SAINET in Suid Afrika. VJ Huzar is weer die top "Cheese Merit" beproefde bul in die land. M&H

'n VJ Garant dogter in John se kudde. Garant is tans die top Sainet bul in Suid Afrika.

In 2019 het John die Genimex Suiwelstudie-toer meegemaak. Hier is hy in Copenhagen, hoofstad van Denemarke.

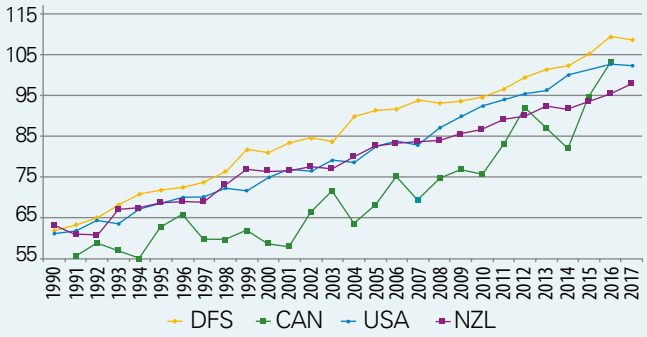
VJ Quintana dogter

VJ Hitman dogter in die Cineraria kudde

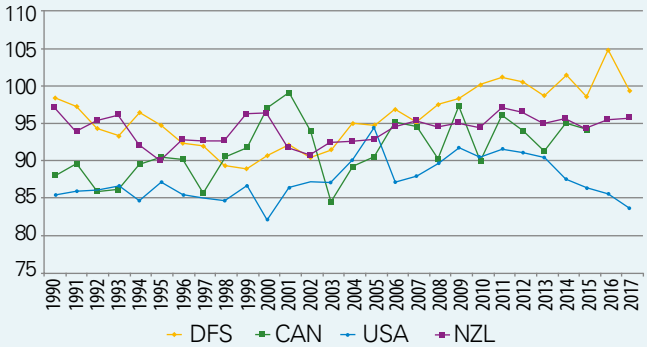
INTERBULL

Die onderstaande grafieke is 'n aanduiding van watter lande die beste geneties vlakke vir produksie en gesondheidseienskappe soos vrugbaarheid en uiergesondheid, het. VikingGenetics is reeds sedert die vroeë negentigs besig met studies en seleksiedruk in die verband.

Genetiese vlakke vir produksie, Jersey bulle



Genetiese vlakke vir uiergesondheid, Jersey bulle



Christian Bengtsson, VikingGenetics Breeding Specialist

"These findings are an important step to show farmers that genomic breeding values are beneficial for use on their herds for selection decisions."

Christian Bengtsson, PhD student at The Swedish University of Agriculture (SLU) and VikingGenetics' breeding specialist.

DO GENOMIC BREEDING VALUES WORK IN PRACTICE?

VIKINGGENETICS innovative breeding

Today, more and more farmers are interested in testing their heifers genomically, Christian Bengtsson, PhD student at The Swedish University of Agriculture (SLU) and VikingGenetics' breeding specialist, has given answers to this trending question: Do genomic breeding values work in practice?

The study took place in 2019 and included three breeds: Red Dairy Cattle (RDC), Holstein, and Jersey. In his research, Bengtsson compared the abilities of virgin heifer genomic enhanced breeding values (GEBV) and parent average (PA) to predict future cow performance. (Parent average is also known as pedigree index).

"These findings are an important step to show farmers that genomic breeding values are beneficial for use on their herds for selection decisions," Bengtsson says.

Bengtsson explains that the traits that were considered for the study are those that farmers consider the main ones on a daily basis in their work. The traits range from milk yield and fertility to conformation, to reflect how genetic values work in practice.

The PhD project required the analysis of 12 traits in first parity:

- Three milk production traits (milk yield, fat yield, and protein yield)
- Two udder health traits (SCS and occurrence of clinical mastitis)
- One fertility trait (interval, in days, from first to last service, **IFL**)
- Two conformation traits (udder, and feet and legs)
- One calving trait (calving ease, **CE**)
- One survival trait (survival to second calving, **survival 1–2)**
- One claw health (**CH**) trait, and 1 general health (**GH**) trait

"The GEBV and PA used were based on the breeding values estimated closest in time to when the animal reached one year of age because the breeding values should not be affected by their own phenotype," the researcher explains.

"Another argument is to reflect the breeding values at first insemination for virgin heifer. For example, at that age, the farmer can combine genomic selection with decisions about sexed and beef semen, as suggested in other studies," Bengtsson says.

MAIN RESULTS

The study used the phenotypes and correlations between GEBV and PA to quantify their differences.

The correlations with adjusted phenotypes were 38-136% higher for GEBV than for PA in Red Dairy Cattle, 42-194% higher for GEBV in Holstein, and 11-78% higher for GEBV in Jersey.

Traits with low heritability, such as fertility, clinical mastitis, calving ease, claw health, and general health, gained relatively more accuracy from the inclusion of genomic information than the highly heritable traits like production did.

"It´s positive to be able to show that genomic breeding values don´t only work in theory but also in practice on real farms. Farmers can have confidence in using genomic technology on their herds for selection decisions," he says.

IMPORTANT MANAGEMENT COMPONENT

Genotyping of cows and virgin heifers in DFS (Denmark, Finland and Sweden) started on a large scale in 2012. In the early years of genomic selection, mainly bulls were tested, but genotyping of virgin heifers has become more interesting as the cost of the tests decreases.

At herd level, genomic test results can be used to:

1. Find the best females for breeding and replacement
2. Identify females for embryo transfer or in vitro fertilisation
3. Correct parentage assignment
4. Control monogenic traits
5. Avoid inbreeding through genomic-assisted mating plans

SCIENTIFIC-BASED AND RELIABLE INFORMATION

Three breeds in the DFS countries have genomic breeding schemes: RDC, Holstein, and Jersey.

In 2018, close to 12% of females born in DFS were genomically tested, compared with approximately 2% in 2012.

To date, over 250,000 females have been genotyped, and phenotypic information from over 100,000 of these animals has been recorded.

Approximately 85% of farms in DFS are enrolled in the national milk recording schemes. This enables validation of GEBV with phenotype data on a large scale.

"These numbers mean that we have enough information to draw relevant conclusions," says Bengtsson. (M&H)

Table 1. Relative change in percent between phenotypes and respective parent average breeding values (PA) and genomically enhanced breeding values for RDC, Holstein and Jersey.

	RDC	Holstein	Jersey
	Relative change	Relative change	Relative change
Trait			
Milk	+63%	+49%	+59%
Fat	+46%	+46%	+60%
Protein	+52%	+44%	+63%
SCS	+63%	+65%	+67%
Clinical mastitis	+62%	+38%	+13%
IFL	+68%	+64%	+78%
Udder	+42%	+61%	+71%
Feet and legs	+73%	+56%	+32%
Calving ease	+77%	+88%	+37%
Claw health	+74%	+91%	n/a
General health	+194%	+94%	n/a
Survival 1-2	+71%	+136%	+11%

SHALLOW UDDERS AND PRODUCTION INCREASE GOES "HAND IN HAND"

Peter Larson

VIKINGGENETICS innovative breeding

In VikingGenetics all breeds put a lot of emphasis on udder traits like Fore udder attachment and Udder depth. The result is a very high genetic trend that compensates fully for the effects that production increase has on udder traits.

GENETIC TRENDS ARE HIGH, AND SO ARE PRODUCTION INCREASES

When looking at the genetic trends in cows for fore udder attachment and udder depth, during the last five years, you will see that the increase has been stable for all three Dairy breeds, VikingRed, VikingHolstein and VikingJersey. The trend in fore udder attachment index units has been 8.4 units for VR, 5.6 units for VH and 3.6 units for VJ. For Udder depth, the trend has been 5.5 units for VR, 8.3 units for VH and 5.4 units for VJ. These trends are impressive when you take into account that the production increased during the same period. VR cows increased their production with 610 kg ECM, VH increased their production with 866 kg ECM and VJ increased their production with 491 kg ECM.

INCREASED PRODUCTION DOES NOT AFFECT UDDER CLASSIFICATION

A positive genetic trend does not necessarily fully compensate for the effects of a production increase. By looking at the average score on fore udders and udder depth, you get a good impression of the effects. For VR the average classification score on fore udders changed from 5.2 to 5.1 over the last five years, for VH the score was exactly the same (5.5) and for VJ the score changed from 5.3 to 5.2. Fore udder depth VR had the same score (5,4), VH increased the score from 6.2 to 6.3 and VJ maintained a score of 5.2.

An extra bonus of having high genetic trend for fore udder attachment and udder depth is the positive effects these two traits has on udder health (mastitis and somatic cells). (M&H)

ARTIFICIAL INTELLIGENCE

AT THE CORE OF EFFICIENT AND CLIMATE FRIENDLY COWS

How much feed a cow consumes can now be measured with the use of Artificial Intelligence and 3D cameras. With this data, farmers can now develop accurate feed efficiency to breed more climate friendly cows. The total budget for the project is 3 million Euros granted by different entities participating on it.

VIKINGGENETICS innovative breeding

To ensure your cows are healthy, fertile, resilient, productive and climate friendly, it is equally necessary that you have similar data on their feed intake.

Today, we know the composition of the feed, but so far, the amount of feed that each cow consumes has only been possible to measure on experimental farms with expensive equipment. In VikingGenetics' research project, the amount of feed that a cow consumes is measured with 3D cameras.

The research includes the development of more affordable technology. Analyses of the collected data on cows' weight, feed intake and milk production will contribute to identifying which cows have the most efficient energy intake. The overall goal is to create clear management strategies to improve dairy farming.

The project has a total budget of 3 million Euro and has recently been granted 1.8 million Euro by the Danish Innovation Found.

"The potential of this project is huge and can change the entire mindset on how to fit the cows in a modern cattle production" says Jan Lassen, MSc., PhD, and Senior Research Manager at VikingGenetics. "With the 3D cameras we will provide more objective monitoring of the cows, better feed efficiency per cow, improvements in daily operations and a more resource efficient production", he adds.

"We use 3D cameras and artificial intelligence to identify the cows, estimate their weight, and quantify how much they eat. A more efficient production will also benefit the climate through less methane emissions.", Søren Borchersen, Chief Research & Development Officer, VikingGenetics, explains.

Last year, the Nordic Cattle Breeding Evaluation (NAV) released a Saved Feed Index. The current research with 3D cameras will complement the breeding values for that index.

Besides VikingGenetics, the project has also the participation of the University of Aarhus, which calculates feed efficiency and genetics; the Agriculture and Food Innovation Department SEGES, responsible for the implementation of software by the farmers, and the consultancy SIMHERD A/S, which provides tools for calculating the project's economic value.

SUSTAINABLE MILK PRODUCTION

VikingGenetics will use the recorded data to rank the Viking bulls to ensure that the best genes are passed on. As such, the offspring will be even more resource efficient than the previous generation. There are 1.5 billion cows worldwide, and VikingGenetics hopes that the project will strengthen the company's market position and assure the Nordic countries even more on the world map for sustainable milk production.

"Having individual feed intake records on commercial dairy farms can be a game-changer in modern dairy cattle management. It is something we have always dreamt about," says Professor Nic Frigens, MoSAR, French National Institute for Agriculture, Food and Environment (INRAE), one of the international partners in the project.

Professor Guilherme Rosa from the University of Wisconsin, Madison, USA, also a partner in the project, agrees: "Research wise, this type of data opens up completely new opportunities and makes it possible to study the complexity related to feed efficiency and climate impact in a whole new way".

Lars Peter Sørensen, Genetic Development Manager, VikingGenetics

LACTATION PERSISTENCY
- A TRENDY MANAGEMENT TOOL

Flat lactation curves are believed to be associated with fewer health and reproduction problems. Here you can read more about this trend among dairy farmers from a scientific point of view.

VIKINGGENETICS innovative breeding

Since 2006, the Nordic Cattle Genetic Evaluation (NAV) has calculated breeding values for persistency, which provides information about the shape of the lactation curve.

For example, bulls with EBV (Estimated Breeding Values) above 100 (high persistency) will produce daughters that have a flatter lactation curve with lower yield than expected in the first part of the lactation, and a higher yield than expected in the last part of the lactation, compared to bulls with a lower EBV for persistency.

Recently, dairy farmers have shown an **increased interest in lactation persistency** as a management tool because flat lactation curves are believed to be associated with fewer health and reproduction problems. But how is persistency calculated?

LACTATION PERSISTENCY AND HOW TO UNDERSTAND IT

According to the literature, persistency can be calculated in many ways using the same general definition of persistency. The method used depends on the purpose.

For example, if the purpose is to feed the cow as cheaply as possible by replacing concentrates with roughage around peak yield, a measure such as *Y-index at peak yield* may be advantageous – low index value is desired. However, such an index is of course unfavorable correlated to lactation yield.

According to NAV, breeding values for persistency are expressed as the *amount of milk lost or gained due to the shape of the animal's lactation curve from 100-300 days in milk* (DIM).

The loss (or gain) is then calculated by multiplying the animal's EBV at day 100 by 200. This gives the theoretical yield if a constant lactation curve is assumed. This is then deducted from the yield measured by the **true genetic lactation curve** between 100 and 299 DIM.

The larger the derived value is, the more persistent the lactation curve of the anima isl. Breeding values for persistency are calculated for each lactation and weighted into one breeding value using weights of 0.3, 0.25 and 0.45 for 1st, 2nd and 3rd+ lactation, respectively.

In the figure on right are examples of 3 Holstein bulls, all with breeding values for milk yield equal to 100, but different breeding values for persistency.

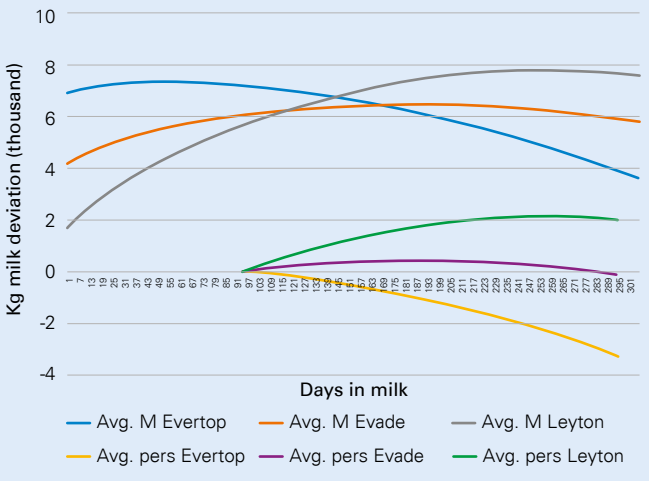
- V Evertop has EBV = 80 for persistency
- VH Evade has EBV = 100 for persistency
- VH Leyton has EBV = 120 for persistency.

For each bull, a simple lactation average for milk yield is shown as unstandardised EBV expressed as the deviation in kg from an unspecified mean (~6kg). Later peak yield (VH Leyton) results in higher persistency compared to earlier peak yield (V Evertop).

PERSISTENCY – IN PRACTICAL USE

- Persistency is not included in NTM (Nordic Total Merit) mainly because it has no positive effect on economic gain. However, the genetic gain for persistency is positive given the current weighting of traits in NTM.
- Persistency is favorably associated with yield, longevity, and udder health whereas the association with milking speed and general health is slightly unfavorable.
- For management purposes, a flat lactation curve should always be considered as it puts less stress on the cow, i.e. less negative energy balance
- In special circumstances such as seasonal calving combined with heavy pasture grazing, cow performance in early lactation is important for utilising the high feed availability. M&H

Figure 1. Kg milk deviation and Days in milk



Source: NAV- Nordic Cattle Genetic Evaluation

Jan de Jong

WHAT CAN WE LEARN FROM OTHER DAIRY PRODUCERS IN THE WORLD?

Can other dairy production systems be adapted for use in SA?

It is probably true that most farmers detest sitting in an office. Add to that the word "planning" and the farmer contemplates suicide or partaking of an excess of his favourite drink.

This planning task can vary from long term and expensive infrastructural planning of a new dairy, outbuildings and pastures layout of a recently purchased farm (although the wise man will likely consult a few consultants to aid in these tasks), to medium term planning (perennial pasture establishment or machinery planning for the next five years), or a shorter planning horizon of cash flows for the forthcoming season (a 12 month period). During this shorter horizon there would be the planning of feed supplies – annual pasture types for the forthcoming milking season (in a seasonal, pasture based milking operation), or planning the crop rotation for the next growing season in a (total mixed ration) TMR enterprise. Planning could also be as mundane a task as sorting out the dairy labour roster for the next week or month.

The point is that there is planning required for many dairy production tasks, whatever we may call it. This process is part of whole farm planning because a planning horizon has to take seasonality into account for pasture based dairy operations: climatic and rainfall conditions. Ultimate aim is maximum quality feed because milk production is a factor of feed. Looking at it simplistically, a favourable Body Condition Score (BCS) of the cow through the year ensures milk production.

South Africa's main pasture based dairy farming zones: the Eastern Cape seaboard, areas of KZN and sections of the Winter rainfall area of the Cape are no strangers to untimely dry spells, as well as being subject to variability in terms of the start of the rainy season.

While a drought cannot be foreseen, the effects can to a degree be tempered by early planning.

Dallas Mount, an agricultural consultant in the USA has a simple approach to drought, a view that is closely followed in New Zealand (or he learnt this principle from the Kiwis): "hope of moisture to come and emotional attachment to breeding stock, drive the procrastination of necessary decisions." (RFP, Drought Planning, April, 2021).

The one truism is that of moisture: farm with the rain you have received, not with the rain you expect.

Another non-negotiable is that the drought plan / fodder flow plan / livestock management plan that you generate has to be a written plan and communicated to those involved. It is a living document: it is not a colourful picture for the office wall. Laminate it if you must, but only so that you can add comments, change dates and decisions with a whiteboard marker.

Where the proposed plan originated I cannot recall, but probably in the Northern hemisphere as all months have been changed. I apologise for allegations of plagiarism.

GENERATING THE PLAN

Moisture is arguably the most limiting natural factor in South Africa, and the date by which you haven't had sufficient rainfall is called a "trigger" that will require a decision. On the relevant date or dates moisture conditions need to be ascertained, on the basis of these readings a binding, major decision is made for the operation – the trigger is pulled. Note that the trigger dates are not necessarily all climate or rainfall related.

Exactly what that decision is depends on the operation: the fastest way of changing matters (the aim is to ensure that as much feed is available for the most paying (profitable) stock) is by moving stock off the farm. You should already have graded the different classes of stock to know which costs the most and delivers the least margin. The least profitable stock will leave the farm first, then the stock delivering the next lowest margin, and so on. In other words, there are various categories of stock that will have been identified as triggers are pulled at pre-determined dates.

A 20% decrease in cattle numbers means 25% more feed for the remainder, with increased production potential and better BCS for the rest.

Starting date of the plan is not important, over a period the most logical start will become apparent for your setup. For spring mating herds August may be a good place to start – just before September / October mating for a seasonal calving operation, and it should be relatively easy to calculate feed availability.

Herewith an example of a possible plan:

AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY
• Farm fooder available? Stored feed/forrage/silage available • Audit all weights & condition of heifers to mate - 60% of MBW + BCS 5	• Spring mating • Available moisture • Pasture condition	• Rainfall trigger? • Soil moisture	• 1st Trigger point • If dry move calves off farm • H2O supply • Grass critical	Cull: • Mastitis • Old cows • Opens • Hard keepers • Late in calf	• Dry off cows? • BCS + weight heifers for growth • Condition score in calf cows BCS 5
FEBRUARY	**MARCH**	**APRIL**	**MAY**	**JUNE**	**JULY**
• 2nd Trigger • Food availability? • Dry cows off • Buy in food • Autumn calving	• Plan winter forage supply	• Moisture available? • Food stocks for winter	• Winter forage • Nutrition status • Sell of drynot in calf cows • Mating	• Spring calving starts	• Calving • Feed position?

BCS = Body Condition Score MBW = Mean Body Weight

Most months will require decisions; the importance will vary, as will the amount of work required. It could also be that the trigger (here shown in November) may be required to be made in October, depending on rainfall patterns. During February calving (autumn calving herds) will entail much work, combined with extra expenses as calves need to be fed. Food availability is important, and a trigger may need to be pulled here if summer rains were poor. Indeed, poor summer rains may have necessitated pulling a trigger during January. Will the spring calving cows be dried off to save forage? Calving pressure should be reduced as 70% -80% of cows should have calved within the February / March window. Similarly, it is hoped that expected summer rains will have materialised by now which would have negated the trigger decision.

Shown above is a very simple picture of a possible timeline with various actions. It will be seen that much attention is allocated to feed and water monitoring. These two items are paramount in ensuring as high a BCS as possible, which is a factor of production and fertility (getting cows into calf early). What has not been mentioned is conservation of excess feed: making silage (especially), hay or foggage goes without saying, and decreasing waste at all costs should be an on-going strategy.

If this is a pasture based, seasonal calving enterprise then maximizing profit through pasture management (getting as much production off pasture) should be the aim of the planning exercise. Early dry off of late lactation animals, culling of any problem animals and those out of calving kilter should be done sooner rather than later. Only strategic use of supplements (feeding to maintain lactation and not extend it) should be the goals. Profit is the aim, accomplished by good pasture and good management.

TAKE AWAYS:

1. The plan is not cast is stone, trigger dates will vary depending on production system in place.
2. The basic plan largely depends on normal rainfall; changes are as a result of seasonal moisture aberrations.
3. The plan is peculiar to your farm and operation.
4. Hired grazing, off farm heifer raising etc. changes the plan.
5. Genetic system in place changes outlook, eg. use of sexed semen or beef semen. Cull as required.
6. Irrigation changes matters, as do sudden water restrictions (should be a big wake-up call). The pro-active operator should have foreseen water restrictions long before their occurance.
7. BCS is a non-negotiable for production, rapid pregnancy and good cull price. M&H

Joyce Voogt, International Technical Manager, LIC

THE ORIGINS AND ASCENT OF KIWICROSS™ BULLS IN NEW ZEALAND

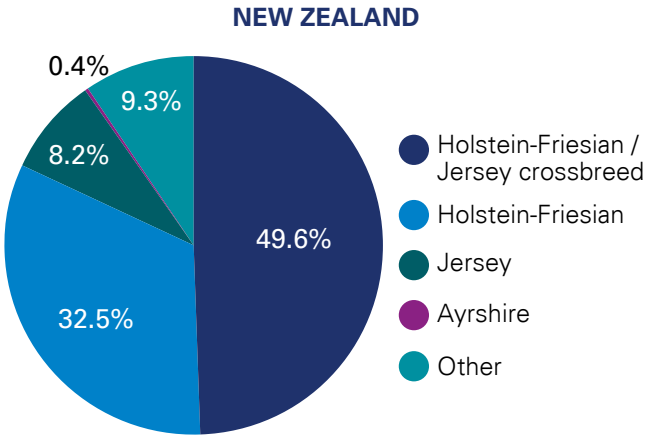
Effective dairy cattle breeding programmes help farmers achieve higher levels of economic efficiency in their farm businesses through increased genetic merit for profit-related traits in their cows.

New Zealand dairy's reliance on pasture as the major feed source results in a seasonal calving system and a national calving interval of close to 365 days. This demands a cow that is both highly efficient at converting grazed grass to milksolids and highly fertile when fully fed on grass. LIC breeds elite dairy sires whose daughters are particularly suited to pasture-based farm systems around the world.

Historically, NZ farmers have found the crossbred cow ideal for the job. She provided a desirable mix of complementary traits from the parent breeds (Friesian and Jersey) and had an added boost in performance from heterosis. Farmers got the 'best of both worlds' plus some!

Crossbred cows have been milked for many decades in NZ and have proved so popular that they now dominate the national herd. In 2020/21, national dairy breed percentages were around 50% FXJ,33% HF and 8% Jersey. LIC reported on close to 1.6M crossbred herd tested (milk recorded) cows, close to 0.9M Holstein Friesian and 0.25M Jersey cows in the same year.

Breed category percentages of cows for New Zealand in 2020/21



Source: NZ Dairy Statistics 2020/21

NB. 'Other' represents cows of other breeds, >2 breed mixes, or those with incomplete ancestry information

The rise of the crossbred cow population necessitated its exploration for elite cows to join the ranks of bull-mothers in the LIC breeding scheme. LIC research throughout the 1990s led to the development of KiwiCross™ bull teams, which were launched in the LIC Sire Proving Scheme in 2000.

In NZ, bulls can be compared on an across-breed evaluation system regardless of breed or breed mix, allowing for fair comparisons of genetic merit. A large reference population for each breed, and expertise in genomic evaluation of both purebred and crossbred animals, allows LIC geneticists to complete genomic evaluation across all breeds.

WHY LIC OFFERS KIWICROSS™ BULLS

A wider pool of AI-bull dams is available. Cow indexes show elite crossbred cows rank highly alongside purebreds. Breeding crossbred bulls allows New Zealand to maintain high selection intensity on the cows used to breed bulls. Past research has shown cow selection accounted for 34% of genetic improvement in New Zealand dairy cattle.

KiwiCross bulls themselves rank highly for genetic merit and have comparable rates of genetic gain to the parent breeds. KiwiCross bulls add a significant dimension to the pool of crossbred bull-fathers, as evidenced in the ancestry of LIC's KiwiCross bulls available in South Africa.

Performance characteristics of KiwiCross bull daughters: Crossbreds combine complementary traits from the parent breeds. Liveweight, milk volume and fat % along with many other traits are intermediate to the HF and J parent breeds and suit the system and milk payment model of many pastoral farmers, which makes these bulls popular. Economic benefits arising from biological heterosis and complementarity of traits has been shown to result in increases in farm profit. (More on biological heterosis below.)

More mating options: KiwiCross bull teams simplify breeding plans in crossbred herds, with no need for complicated back-crossing systems. Farmers can also customise their mating systems to create a crossbred herd of their preferred breed mix or can use KiwiCross sires to help manage fluctuations in breed composition and resulting phenotypic variation sometimes seen with rotational cross breeding amongst more diverse breeds.

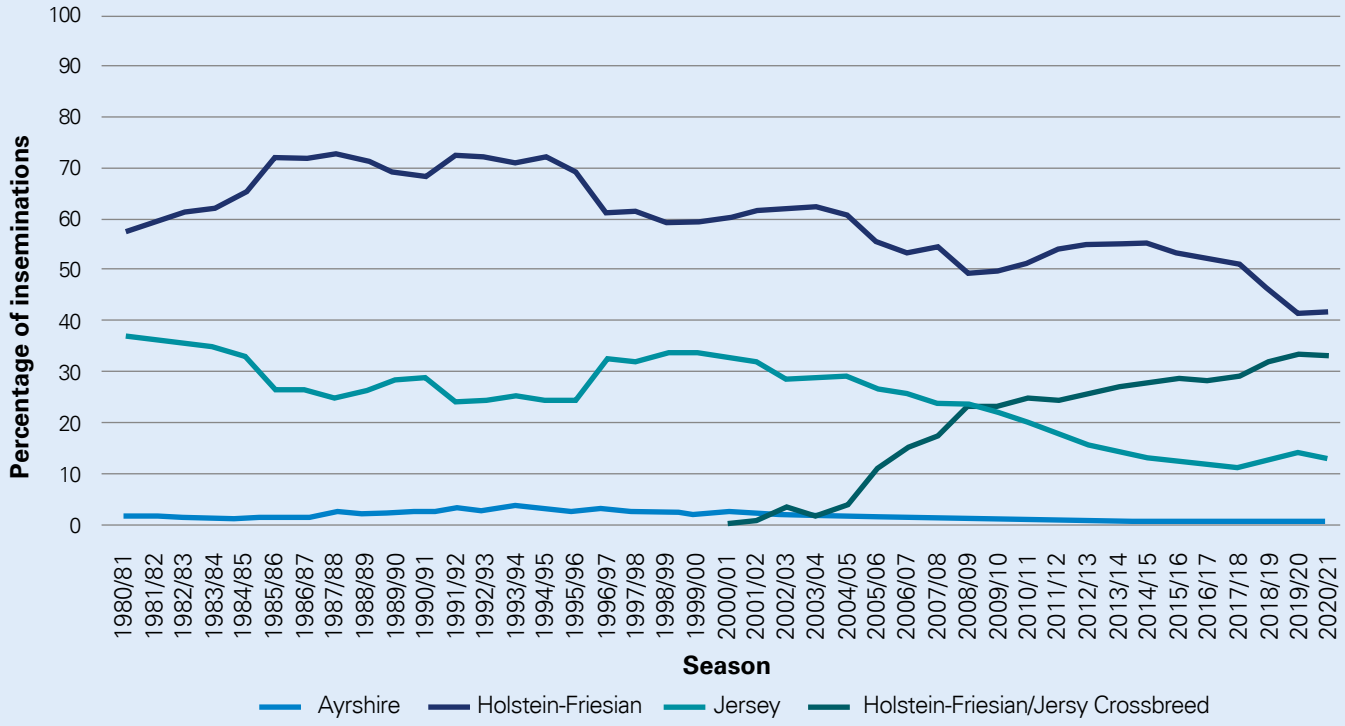
USAGE OF SEMEN BY BREED

Sire usage statistics showed an immediate and growing appetite for KiwiCross bulls in NZ from the start. By 2004, when daughter performance data was flowing through, sales of crossbred semen jumped rapidly. By 2020/21 the use of crossbred bull semen had grown to 33% of all inseminations, while HF had fallen to 42% and Jerseys to 13%.

Detailed semen usage breakdown revealed that 46% of crossbred semen was being used in crossbred cows, 16% was being used on purebred HF or Jersey cows, while the rest went to other breeds or breed mixes.

Interestingly only about 35% of the purebred HF and Jersey semen usage in 2020/21 was to generate purebred animals. Most of it was also being used in the creation of a crossbred offspring.

Trend in the percentage of inseminations of each breed category for the last 40 seasons



Source: NZ Dairy Statistics 2020/21

HETEROSIS AND INBREEDING

Heterosis (hybrid vigour) gives an added bonus on top of the additive genetic merit of the bulls. Its impact on performance on farm is substantial, with boosts of 4-5% reported in NZJ x NZHF first cross offspring for fertility and production, 2% for liveweight and 13% for longevity. 50% of the first cross heterosis is retained in subsequent crossbred interbreeding programmes; more if parent breeds still contribute. Heterosis benefits are especially notable for fertility, health and longevity outcomes.

While heterosis is desirable, it is not heritable, so the first goal in any farm breeding plan should be for additive genetic merit in your key traits. Heterosis is a welcome bonus, expressed only in the animal itself, not its offspring.

Crossbreeding can be used to eliminate inbreeding depression in first-cross animals, but it can build up again over time, so is closely monitored in the LIC breeding scheme across all sires regardless of breed or breed mix.

LIC KIWICROSS BREEDING SCHEME

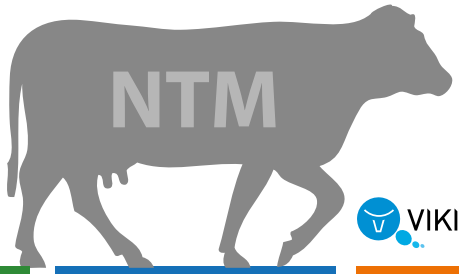
LIC's KiwiCross breeding programme uses both purebred and crossbred sires as bull-fathers, selected on their genetic merit for traits of interest. The wider pool of bull fathers allows highly targeted breeding for complementary additive genetic merit traits, while maintaining heterosis at greater than the expected ongoing crossbred level of 50%. The success of the KiwiCross bull breeding programme is evident in their emergence over the years as sires of sons. Of 15 elite KiwiCross bulls currently offered in South Africa, 4 are sired by Holstein-Friesian, 5 by Jersey and 6 by crossbred bulls.

LIC expertise in evaluation of dairy cattle in New Zealand has been across-breed since 1996, and LIC scientists have many years of experience in the breeding of crossbred bulls, leading the way in dairy crossbreeding for more than 20 years.

LIC lead the tables in crossbred dairy genetics, owning 9 of the top 10, and 21 of the top 25 crossbred bulls on the New Zealand RAS list as at 18.2.2022. A customised selection of these bulls is now being made available to farmers in South Africa. M&H

BOTH LIC NEW ZEALAND AND VIKINGGENETICS BASE THEIR FINAL BREEDING INDEX ON THE FINANCIAL VALUE OF THEIR SIRE

We summarise them below



Weights on health, production and conformation in NTM

VIKINGGENETICS innovative breeding

The weights in NTM are set to establish a genetic progress for all the economically important traits, the weights are slightly different between breeds, but in common is a high focus on health traits.

An increasing weight on health traits in NTM over the years is a big success due to greater awareness of cost in dairy production. Dairymen manage to have less cost per kg for produced milk and healthy cows will not take more attention than necessary and give the highest profit.

HEALTH

45%

TRAITS INCLUDED

Udder health
Daughter fertility
General health
Hoof health
Calving (direct & maternal)
Young stock survival
Longevity

PRODUCTION

40%

TRAITS INCLUDED

Production index
- Milk kg
- Protein kg
- Fat kg
- Growth
- Saved Feed

CONFORMATION WORKABILITY

15%

TRAITS INCLUDED

Udder conformation
Feet & legs
Milkability
Temperament

BW TRAITS

LIC® LIVESTOCK IMPROVEMENT

2021

MEANING — Genetic ability for breeding replacements

USE FOR — Selecting bulls and replacements and purchasing heifers

$ TERMS — +68 = expected to breed daughters that are $34 profitable than daughters of a 0 BW cow

TRAITS — Milkfat, protein, milk volume, liveweight, fertility, somatic cell, residual survival and body condition score