



THE BULLETIN

There's always room for improvement

WINTER 2018





On 3 May New Zealand's dairy industry lost one of its true champions: Dr Pat Shannon

The contribution this individual has made to our industry cannot be overestimated.

Pat joined the New Zealand Dairy Board in 1954 where he began work on semen research.

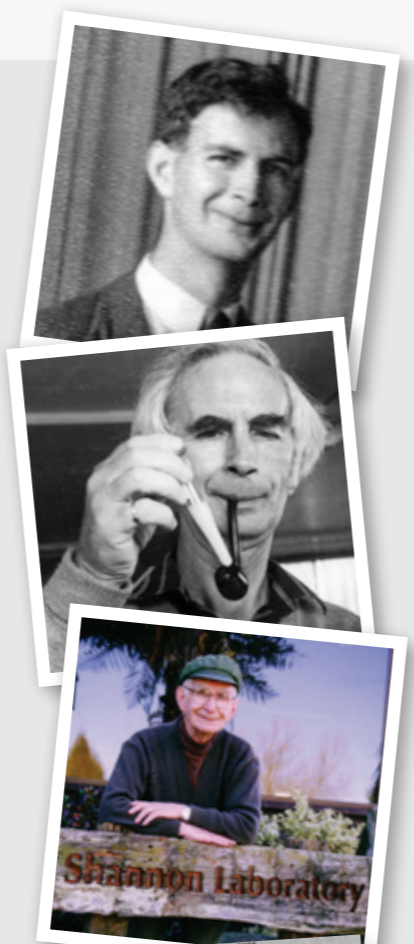
This research culminated in the long last liquid semen (1988) that underpins LIC's genetics business, and the genetic improvement that has been made in the New Zealand dairy herd.

Pat was also instrumental in the establishment of the Sire Proving Scheme (1961), and some of the early animal evaluation models.

Pat's contribution to New Zealand was recognised in 1999 with his award of the Companion of the Queens Service Order.

Pat was also recognised with many other awards, including being the inaugural winner of the McMeekan Award (1974), and the inaugural recipient of Fonterra's Dairy Excellence Lifetime Achievement Award (2003).

In 2004, LIC celebrated Pat's 50 years of contribution to the New Zealand dairy industry, which included the publication of *Puff the Magic Shannon - a tribute to the life and science of Dr Patrick Shannon*.



At this celebration LIC announced the naming of the Shannon Laboratory at Newstead, as well as the Pat Shannon Scholarship.

The scholarship, an annual academic award, goes to high-achieving university students.

Pat had recently reached his 90th birthday and his 64th year with LIC.

As well as his scientific achievements, Pat was known for his wonderful sense

of humour which included many tales of his Uncle Ignateus and Aunt Mary.

Pat will be dearly missed but his contribution to the New Zealand dairy industry and LIC will never cease.



Murray King
LIC Chairman

CONTENTS

- [Page 2](#) Breeders' Day 2018 - Roll of Honour
- [Page 3](#) Hall of Fame inductees 2018
- [Page 4](#) A pipeline of Golden Girls in Kapuni.
- [Page 6](#) Holstein-Friesian bulls - The real package deal
- [Page 7](#) What's Up? LIC's breeding scheme
- [Page 8](#) Jersey bulls - Profit power of the high fat cow
- [Page 10](#) KiwiCross bulls - From strength to strength
- [Page 13](#) The secret to success through Premier Sires? The Team Concept
- [Page 14](#) BreedPro: Holstein Friesian Team
- [Page 16](#) BreedPro: KiwiCross Team
- [Page 18](#) BreedPro: Jersey Team
- [Page 20](#) BreedPro: Sexed and Yearling Teams
- [Page 22](#) PW change-up
- [Page 23](#) Look out for early infection
- [Page 24](#) Words from the Wise Guy
- [Page 26](#) Breeding toward an A2/A2 Herd?
- [Page 28](#) Canterbury manager's approach to breeding & feeding
- [Page 30](#) Repro & the Path to Success
- [Page 31](#) AB facilities up to scratch?
- [Page 32](#) On the Cutting Edge: Genomics
- [Page 33](#) Sexed Semen? Make it liquid, make it fresh

© 2018 Livestock Improvement Corporation Limited ("LIC"). LIC is the owner of all Intellectual Property Rights connected with the brand names Premier Sires®, SGL Dairy®, KiwiCross®, MINDA®, EZ Heat®, GeneMark®, Farmwise®, DataMate®, SPACE™, Alpha™, MINDA Pro™, Protrack™ and Protrack EZ Heat™ and the products SGL, Forward Pack, AB Technician, Sire Proving Scheme, Herd Testing, LIC Heat Patch, Heat Patch Plus, 6 Week Challenge and the associated visual identity and trade dress. Intellectual property in the brand names Saber™, CellSense®, YieldSense®, Beacon® and the associated visual identity and trade dress are owned by LIC Automation Limited and Beacon Automation Pty Limited respectively.



Breeders' Day 2018 – Roll of Honour

LIC's annual Breeders' Day was this year held at Wintec's Atrium the heart of Hamilton city.

This year it was an evening event that included dinner and a variety of presentations. It was preceded by a tour of LIC's bull farm and facilities.

About 130 farmers, from throughout New Zealand, attended the day.

Breeders' Day recognises farmers who contribute to the progression of the national dairy herd through breeding better genetics: Their cow families contributed bulls used in LIC's 2017 Premier Sires teams.

A feature of the day was the announcement of two new entrants to LIC's Hall of Fame (the 55th and 56th animals to be recognised with the honour, see adjacent page).

Among the highlights was the applause from the breeders toward 2018 Sire Proving Scheme Farmer of the Year, Dave Gibson of Kapuni.

The adjacent is a list of breeders of bulls that made LIC's Premier Sires teams in 2017:

Honour List

Alan & Anne Looney	Opotiki
Alan & Linda Powell	Hamilton
Alan & Vivienne Lockwood-Geck	Cambridge
Barry and Jocelyn Moore	Hawera
Ben & Deborah Burmeister	New Plymouth
Bill & Michelle Burgess	Matamata
Bracelet Syndicate	
Brent & Cindy Morris	Morrinsville
Brewster family	Paeroa
Brian & Barbara Fitzgibbon	Tauranga
Brian & Simone Shaw	Invercargille
Bryan & Jo Guy	Feilding
Colin & Linda Megaw	Waitara
Colin Foley	Hawera
Craig & Chantelle Rowe	Palmerston North
David & Karen Camp	Ohaupo
Des Hickey	Ohinewai
Eddie & Dianne Jenkins	Stratford
Gary & Sarah Carson	Putaruru
Gavin & Graeme Drysdale	Eketahuna
Gavin & Kathryn Carey	Dargiville
Geoff Wilson	Outram
Goodwright Family	Waiuku
Graham & Glenys Bell	Te Aroha
Hans & Margaret Schouten	Invercargill
Henk and Sandra Schrader	Invercargill
Huzziff Family	Foxton
Ian & Valerie Cocker	Palmerston North
Jeff McCandless and Marcella Mumm	Gore
John & Annemiek Langeveld	Waihi
John & Jennifer Lawn	Opunake
John & Jill Bluett	Hamilton
Luke & Lyna Beehre	Hikurangi
Lynskey family	Opunake
Mark & Norah Thompson	Te Awamutu
Mark & Patricia Scott	Waihi
Maurice & Lorraine Pedley	Palmerston North
Max & Daniela Padrutt	Hawera
Mike & Christine Gyde	Inglewood
Mike & Deb Fichtl	Te Awamutu
Murray & Janet Gibb	Taupiri
Murray & Julie Dickson	Te Awamutu
Paul & Kirsten Midgley	Hawera
Paul & Pam Snoxell	Waimate
Peter & Johanna Crossan	Te Puke
Peter & Raelene Allison	Outram
Phil & Donna Lowe, Todd & Fleur Anderson	Ashburton/ Winton
Randall Family	Te Kopuru
Ray & Sandra Hocking	Takaka
Rob & Alison Thwaites	Hawera
Robert & Anne Siddins	Thames
Robert & Annemarie Bruin	Otautau
Robert & Stephanie Trainor	Dannevirke
Roger Crawford	Tokoroa
Rowan Priest	Te Aroha
Shaun & Kelly Bicknell	Murupara
Shaun Good & Michelle Adam	Te Awamutu
Stephen & Kaye Mourie	Opunake
Steve & Jacqueline Dearlove	Wanaka
Stewart & Kathryn Anderson	Otorohanga
Stu & Sarah Gordon	Morrinsville
Tom & Courtney Werder	Patea
Tony & Ali Van der Heyden	Tokoroa

Hall of Fame inductees 2018

Entering LIC's Hall of Fame is a special recognition, and is reserved for dairy animals whose achievements have had (and continue to have) a profound effect on dairy farmer profitability New Zealand.

The Hall of Fame occupies a special place in LIC's company culture. This year the following two influential bulls were acknowledged at Breeders' Day as LIC's latest to enter its Hall of Fame.

309084 Lynbrook TERRIFIC ET S3J

The 55th inductee to LIC's Hall of Fame

Bred by Steve and Nina Ireland.

Dubbed 'Mr Fix-It', given his ability to sire outstanding conformation traits.

Nearly 200,000 inseminations throughout four years in Premier Sires.

More than 38,000 daughters.

Nine sons marketed through various Premier Sires teams - and many more grandsons.



508154 Priest SOLARIS ET

The 56th inductee to LIC's Hall of Fame

Just the third KiwiCross bull to enter the Hall of Fame.

Born as a result of working with Rowan Priest and LIC's GeneRate programme.

Nearly 550,000 inseminations throughout six years in Premier Sires.

More than 105,000 daughters.

Seven sons marketed through various Premier Sires teams.



A Pipeline of Golden Girls in Kapuni

Taranaki farmer Dave Gibson is LIC's Sire Proving Scheme Farmer of the Year, which was officially acknowledged and applauded at the recent Breeders' Day.

Although Dave says the accolade came as a "pleasant surprise," several key observers believe it was inevitable, including bull acquisition manager Casey Inverarity, who visited Dave's Kapuni-based herd during autumn.

"I visited his farm because he has a contract cow with us - it's an exceptional cow.

"I realised Dave was running a sire proving herd so I looked through some of the daughters of young bulls we know well.

"I took with me a prominent local breeder, Rob Thwaites of Glanton Stud (in nearby Opunake).

"Rob has several bulls close to, or in the shadow Premier Sires Jersey team, and he was keen to see some of the daughters, and they really were brilliant.

"While we were there Dave had drafted out some of his cows and they really were exceptional, outstanding, animals. I'll be seeking to do another walk-through the herd and I'll be taking some more breeders with me."

Top cows

Four of Dave's cows were professionally photographed to feature in LIC's 2018 Alpha Catalogue.

In terms of Breeding Worth (BW), Dave's herd is among the top five percent in the country, perhaps reflecting the quality and consistency of his culling decisions over the years, his attention to herd recording, and his confidence in herd testing information.

Dave says the quality of young bulls mated to his herd since he joined the Sire Proving Scheme (SPS) in 2009 has also played a significant role in maintaining his BW in the top five-percent.

"Back in 2009 my former wife was working for LIC and we thought there was a lot going on with DNA genomic-selection technology.

"We thought the quality of (yet-to-be-proven) bulls should be quite good, and although it got off to a rocky start we thought it would improve as time went on. The genomic offering appealed because we thought it presented

an opportunity for access to better genetics at a low cost with SPS."

There is a degree of flexibility in SPS, allowing Dave to nominate up to 10% of his cows to bulls, and in several recent seasons he's sought the advice of an LIC sire acquisition manager to do so.

Dave purchased the 280-strong herd from his father Tom (a former LIC director) in 1992, when the family farm was located down the road at Auroa.

In the 1990s, the herd was the top Breeding Index (the fore-runner to BW) mob in the country.

By 1999, the index had changed to BW, and the herd was still rated number one - that was the same year Dave moved to his current 67 ha Skeet Rd property, and he reduced herd numbers to 200.



Dave accepts his SPS award from LIC chair Murray King at Breeders' Day.

Benefits of belonging to SPS

Dave says being part of the Sire Proving Scheme is rewarding, and the relatively low cost of quality genetics is a big carrot, but there are widespread benefits about a disciplined approach in bringing through young stock.

Asure Quality weighs replacement stock as they simultaneously get conditioned-scored, and LIC pays for the sire verification of all heifer calves, Dave says.

"We'd DNA verify them anyway, so it's bonus for me.

"LIC also forwards a rebate for the heifers' herd tests in their first year."

Seeking solid milkers

Dave herd tests five times a year. "We like to have the data; we like to see how they're producing at different times and it's good to have a more accurate picture of what the cow's doing throughout the season - I'm always interested.

"If they're not any good, they get culled."

The most significant trait Dave seeks in his genetics centres on the udders.

"I'm looking for animals that are easy-to-calve and which do decent production and milksolids, but for me it's the udder that's really important.

"This herd's udders are pretty tidy. I've got maybe two in there that might be starting to get a bit long, you know - losing their support.

"Sometimes you'll get a heifer after calving and the cups won't stay on them, you have to hold on to them for a bit and it's frustrating when you're busy."

"If the rear teats are a bit far back it'll suck the air until it's milked the tension out the udder."

Traditionally the herd has produced about 450kg milksolids (MS) per cow, sometimes up to 470kg.

More recently however, due to a new feed system inside the 20-aside herringbone (equipped with Protrack ID Herringbone), Dave has been able to increase production.

He was hoping to end up at 500kg MS/cow by season-end for 2017/2018, with a view to doing the same the 2018/2019 season.

"We've fed a bit of palm kernel and they've milked so much better. Fonterra will start grading shortly but we should be able to manage without being penalised, especially if the grass continues to grow."





The real package deal

By Charlotte Gray, LIC sire analyst



Charlotte Gray

The old adage “good things come in small packages” often rings true, but it sure goes against the grain when you’re appraising the Holstein-Friesian bulls lining LIC’s paddocks these days!

Perhaps “bigger is better” is more apt, because when you’re considering the 14-codes across breeds, it’s the black and white boys that really have the whole package going for them.

Three must-haves: Breeding Worth (BW), production, and a good udder (to deliver on the promise of her genetic potential), that’s what most like to see in a cow.

And that’s exactly what’s getting delivered in LIC’s Holstein-Friesian bulls.

Big on BW

In the BW corner we’ve got the bull who is number three within breed and ranked number eight across breeds on Animal Evaluation’s (AE) May *Ranking of Active Sires* (RAS) list: **114007 Busy Brook WTP VECTOR S3F**.

Currently sitting at an impressive 233 BW, he’s the highest Holstein Friesian 14-code on the RAS list across any AB company, and one to watch.

He just keeps on climbing the BW ladder, having lifted 99 BW between October and April – the biggest BW gain across all the 11,000+ AE-enrolled Friesian bulls.

Among AE-enrolled Friesians the average liveweight breeding value (BV) is 56kg, but Vector’s certainly the ‘big kid on the block’ at 105kg. Despite this, his calving difficulty is better than the breed average, at 1%.

His 8.7% fertility BV is also impressive, and one that we will watch with interest as his daughters calve down for a second time in a few months. Given how topical A2/A2 milk is right now, it’s worth mentioning that Vector is A1/A1.

Nathan and Amanda Bayne from Oamaru have done a fantastic job of producing yet another all-rounder in VECTOR. Well done!

Production Plus

In the production corner, we have a **111012 Farside M ILLUSTRIOUS S3F** son from Kihikihi, who offers fantastic solids in hand with the ability to sire very good udders.

Courtesy of Angela Fullerton and Glenn Clarke, the full pedigree bull **114032 Woodcote FI MASTERMIND** is the man of the moment. Forget tall poppy syndrome – this is a bull that needs to be noticed, having the highest fat BV ever for a Holstein Friesian bull!

With 53kg of fat coupled with 36kg of protein, he’s produced some outstandingly productive daughters from his initial inseminations.

Currently at 183 BW, he’s sitting comfortably in our Premier Sires team and looking to have a significant impact.

The way fat prices continue to move in the international market, (all other things being equal), we don’t expect this guy to slip on BW any time soon! With a calving difficulty at 5.4%, it should be noted he’s not suitable for yearling matings.

All-rounder

Last of the trio is a bull that displays a complete package!

With udder quality abound, this guy is looking to produce daughters more capable than impressing only on herd tests. **114057 Maire FI GOLDDIGGER** is another **ILLUSTRIOUS** son with production and overall conformation to burn.

From the same family as last year’s stand out **113086 Maire IG GAUNTLET-ET** (the highest capacity marketed bull ever), **GOLDDIGGER** boasts a capacity BV of 1.01 and an udder overall of 1.22, with fore udder being his strength at 1.38.

It’s hard not to be drawn to this guy’s TOP chart, so a massive congratulations to Craig and Chantelle Rowe from Manawatu for producing yet again another outstanding bull who’s set to contribute significantly to the industry!

Something different

Another bull that deserves a quick nod is **114041 Mitchells KE HUSTLER S2F**. This bull is very user-friendly being somewhat of an outcross option for use over Mint-Edition lines, as well as A2/A2.

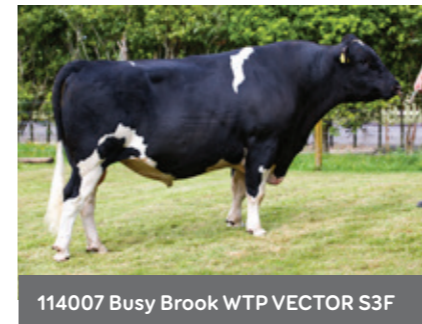
Charles and Ellen Mitchells from Murupara ought to be pleased with this guy.

These four boys are definitely ones to keep tabs on. All four of them are

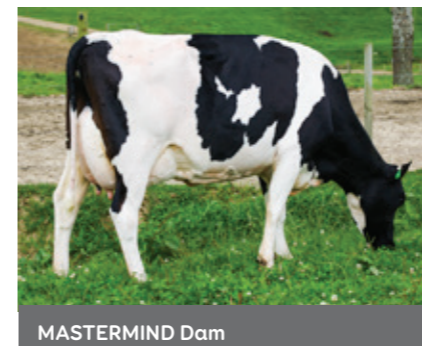
available in the Alpha Catalogue, and VECTOR, MASTERMIND, and HUSTLER are also in the Premier Sires Daughter Proven team.



VECTOR Daughter



114007 Busy Brook WTP VECTOR S3F



MASTERMIND Dam



GOLDDIGGER Dam



114041 Mitchells KE HUSTLER S2F



What’s Up? LIC’s Breeding Scheme

By Simon Worth, LIC livestock selection manager



Simon Worth

and Charlotte highlight over the next few pages reflect that feedback and the balanced approach we have to breeding.

In 2014, we also had clear feedback from farmers in regard to the breed content of the Holstein Friesian team.

Although an F15 J1 was generally okay (given the resulting offspring can be F16), a breed-mix of F14 J2 was unacceptable. Based on this, we introduced a policy that no F14 J2 bulls would enter the Holstein Friesian programme.

This same year, however, we were presented with a young bull calf from Dave and Karen Camp.

Times are certainly changing.

LIC’s breeding team is well aware of the momentum in variables such as A2, the environment, and the value of milk components.

Given we are tasked with delivering the cow of the future – we’re certainly being kept on our toes!

Our team, and the wider business, take the feedback we receive from farmers very seriously.

For many years that feedback has been consistent: ‘Give me BW, fertility, udders, and cows that last’.

I’m sure you’ll agree the new graduates that Casey, Taylor,

Despite being F14 J2, we felt he had too much potential, and we therefore purchased him as a KiwiCross bull.

On pp 8-9, Taylor talks more of what Koru Glen is set to deliver to the industry, but I’m rapt we made the decision we did in 2014.

Not only will Ethos contribute nicely through the KiwiCross team, he still offers an opportunity for those breeding Holstein Friesian cows as he was still able to be registered through the Holstein Friesian Association.

Given his outcross nature (Blitz x O-Man) he may well be a bull that will cross the divide!



Profit power of the high fat cow

By Casey Inverarity, LIC bull acquisition manager



Casey Inverarity

We're experiencing a fundamental shift in the value of milk fat in the New Zealand dairy industry.

What does this mean? Farmers milking cows with a higher fat test (generally higher Jersey-content animals) will put more money from making milk into their bank accounts.

Profit power of the high fat-producing cow can simply no longer be ignored.

And, with Fonterra calling out for more milk fat in the industry, it's hard to argue against the need for some Jersey injection into New Zealand herds.

Now is the time for the high-solids Jersey cow to shine.

It is easily conceivable there will be close to a 20c difference in final summary payments for a higher Jersey content, and therefore higher milk solid herd, compared to a high litre, lower milk solid, herd next season.

So how is this being reflected in Breeding Worth (BW)?

I indicated last year that we were to expect a lift in BW for high fat animals. This has now arrived, but we know more is coming in February 2019.

Currently LIC's Jersey Premier Sires team is an exceptional 15 BW higher than the KiwiCross team, and 22 BW higher than the Holstein-Friesian counterpart.

We expect this BW gap to continue to increase in the foreseeable future.

This year the team is spearheaded by **314052 - Crescent Excell MISTY**; a Jersey bull we simply haven't seen the likes of in the industry for some time.

At 267 BW, Misty is the first Jersey bull since 2005 to graduate number one Jersey bull across breeds.

Not only is Misty clearly showing himself to be the most profitable across breeds (based on our national breeding objective), but he is delivering on the all-important non-production traits.

He achieves this with a liveweight BV of - 16, reflecting his significantly larger daughters compared to the average Jersey cow (at - 50kg).

From a diversity perspective, the absence of Manhattan in Misty's pedigree is appealing, allowing him to be utilised far-wider on Jersey cows than a number of other top Jersey bulls in the industry.

Well-done to Mark & Diane Townshend of Ngatea.

Complementing Misty is **314022 Linan Integrity WINSTON** and his raw production power.

If we compare bulls based on kg milksolids production per kg liveweight, this bull blows the majority of *Ranking of Active Sires (RAS)* list contemporaries out of the water (first-equal with Glanton Jingo Berlin and Okura Goldie Index).

Bred by Colin and Linda Megaw of Waitara, Winston is unique.

Outstanding production does not, in this case, come at the expense of udder conformation.

Winston's udder conformation at 0.76 is second-highest on the Jersey RAS list.

314049 - Bells Oi FLOYD is well known through his use as a genomic bull in Forward Pack for three years.

At 211 BW, this bull in my opinion is the absolute all-rounder, much like his popular sire, Integrity.

Bred by Graham and Glenys Bell of Te Aroha, Floyd is the biggest New Zealand Jersey bull currently being marketed.

Offering huge production, and very solid conformation, he's already proving to be very popular.

At 219 BW, **314049 - Coombes Manz CHIEF** is offering incredible production (32kg fat and 8kg protein) which is, unusually, balanced with high fertility at 3.4 - and he has some great size about him.

Bred by the Coombes family of Ohaupo, this bull has standout daughters in the catalogue.

Some protection around udder support will be required, however.

The Jersey team at LIC is hitting the homerun with 9 of the top 10 Jersey spots on the RAS list.

On top of this, farmers essentially get an A2/A2 team (Integrity being the only A1A2 bull) at Daughter Proven prices.

But if you're really wanting to get ahead, it's perhaps time to use Forward Pack.

A number of the Daughter Proven bulls in the team (and on the RAS list) are already familiar to us through their time spent in Forward Pack or Alpha Nominated as genomically selected bulls.

This includes the likes of Winston, Floyd, Integrity, Kaino, Leroy, Leopard, and Bolt.

In terms of graduating high-BW bull teams, it's clear genomics is delivering in this breed.

If you haven't already, it might be time to jump back in and get serious about using Forward Pack.

With differentials of up to 30 BW between Daughter Proven and Forward Pack teams over the past three years,

the Forward Pack team is simply delivering the best of the best.

Some of the Forward Pack highlights include sons by bulls which unfortunately died before they received widespread industry use.

These bulls include the likes of Lorenzo and Baltic (Strider sons) and Favour (Goldie).

They also include the next generation of bulls from proven cow families, including Fullspeed (Floyds family), and newly-discovered families such as Flint, a Terrific son whose dam is out of a once-a-day herd (as a two-year-old she managed to produce an outstanding 558kg milk solids).

In essence, if you're breeding for profit from milk production, it's hard to ignore the team of brown bulls.



Daughter of 314049 - Coombes Manz CHIEF



Daughter of 314052 - Crescent Excell MISTY



From strength to strength

By Taylor Connell, Sire analyst



Taylor Connell

Strength over all key areas: production, somatic cell count, fertility, longevity.

On top of this we want her to maintain crucial body condition throughout her lactation, as well as being sound in her other essential traits: udder, capacity, and temperament.

"That's what I call the perfect cow."

Not too much to ask, right? Certainly not when looking at LIC's KiwiCross boys!

511011 Priests SIERRA is set to enter his fourth season in Premier Sires Daughter Proven – a feat rarely achieved.

At 243 BW, Sierra is again looking to headline LIC's Premier Sires Daughter Proven team – and looking at his profile, why would you not milk Sierra daughters?

An excellent mix of production, liveweight, and extreme fertility – combined with an overall opinion score of 0.62 and capacity at 0.41.

A chart like his really doesn't come as a surprise. Sierra combines the bloodlines of the hugely-popular Solaris cow family with the crowd favourite sire, Mint-Edition.

Sierra has been named in both LIC's potential Premier Sires Forward Pack

and Daughter Proven teams, while also featuring in the 2018 Alpha Catalogue.

Congratulations to Rowan Priest for breeding yet another high calibre bull.

We're just as excited about **513098 Arkans BOUNTY**.

Bounty is sired by one of the superstar Jersey bulls of recent times, Integrity, and combines the very best of both dam and sire.

With high scores in overall opinion, capacity, and udder overall, Bounty paints the picture of strong, well put-together daughters.

Best of all, with a 221 BW, it's clear these girls love to milk.

While Bounty's J11F5 breed split keeps him out of Premier Sires Daughter Proven, he has been named in LIC's potential Premier Sires Forward Pack team as well as being available in the *2018 Alpha Catalogue*.

Bounty descends from the Arkans 'B' family of Stewart and Kathryn Anderson, a cow family that has proven (and is still proving) itself time and time again.

At 260 BW Beckon is ranked #1 in the breed and will be a popular choice this season.

He is available in Alpha Nominated and to those who have ticked the Premier Sires Forward Pack box (due to his breed mix of J11F5).

But this cow family isn't finished yet, they give rise to yet another production king at 197 BW, **514015 Glen Koru ETHOS-ET S1F**.

Sitting with a breed split of F14J2 this bull offers a 48kg fat BV, a liveweight of 52kg as well as being easy calving.

Being a Blitz son, from a dam sired by the overseas bull O-Man, Ethos offers a great outcross to the popular Mint-Edition genetics in both Holstein-Friesian and crossbred herds.

Shortlisted for the potential Premier Sires team, Ethos is also available in Alpha Nominated.

Completing the Glen Koru clan we have 514018 Glen Koru EPIC, this time from a different cow family altogether.

At 210 BW, this Crusader son from an Imperial cow brings production, fertility, and udders to the table.

Given Epic's rank he has been shortlisted for both the potential Premier Sires Daughter Proven and Forward Pack teams, as well as being available in Alpha Nominated.

With these guys set to deliver some outstanding genetics this year, the KiwiCross advocates among us can rest easy.

There's no doubt the 2018 mating season is an event to look forward to.



Daughter of 514015 Glen Koru ETHOS-ET S1F



Daughter of 511011 Priests SIERRA

An example of this is Bounty's half-brother **511026 Arkans BEAUT ET**, who has clocked up more than 10,000 daughters, yet is set to return this year for his fourth season in Premier Sires Daughter Proven. How's that for reliability?

Very rarely do we see three bulls from the same breeder graduate to Premier Sires in any given year.

Yet that's exactly what David and Karen Camp of the Glen Koru stud have managed to do.

In fact they had a 100% strike rate for all 2013 purchases being named in the 2018 Potential Premier Sires Teams.

514017 Glen Koru BECKON is something special.

This Manzello son has the highest fat breeding value (BV) in history (over all breeds!), at 52kg.

Combining his fat credentials with a protein BV of 29kg and a liveweight BV of -1kg, you can see just how efficient these girls are.

Best of all, they certainly aren't weak cows, with a capacity BV of 0.60, and are well liked at an overall opinion of 0.64.



Richard and Wendy Ridd, Photo credit: NZDIA

LIC-sponsored merit winners at Dairy Industry Awards

As a key regional and national sponsor, LIC congratulates all participants in the recent Dairy Industry Awards.

This year the finals event was held in Southland.

Here, we profile the LIC-sponsored merit award national winners, Richard and Wendy Ridd (Manawatu) and Anthony Lamborn (West Coast-Top of the South).

LIC Recording & Productivity Award

In the national finals, Richard and Wendy Ridd took out the LIC Recording and Productivity Award (Share Farmer of the Year), picking up a \$2000 account credit.

They believed they won the award on the back of their attention to detail.

The more recording they did, the better their decision making was, Wendy said.

"We aim to have the best possible cows we can have," she said, "and recording is one part of that.

"We want to make good decisions based on reliable information so we can maximise genetic gain and fertility."

Richard said recording and productivity was one of the three main aspects of

genetic gain and herd fertility (AB and herd testing were the other two).

The couple milk 420 Holstein-Friesians on 209ha, situated between Palmerston North and Ashhurst.

"We mate our yearlings and over recent years we've reduced the percentage of the herd we're mating to AB replacement-quality straws," Richard said. "We've been able to do that because we've got a good six week in-calf rate."

This year the couple's aim was to further-narrow the focus of cows put to AB by utilising sexed semen.

"I think sexed semen and genomic technology are two factors that can rapidly add value to our industry," Richard said.

LIC Interview Award

In the national finals, Anthony Lamborn took out the LIC Interview Award (Dairy Manager of the Year), picking up a \$2000 account credit.

"I think I won the category because the judges liked my personality; although it was a formal interview, I was just myself."

"I've been doing this for 25 years so I felt confident in my skills and background when answering the questions."

Record calving difficulties

During calving ensure recording is well-sorted:

- Replace lost tags
- Fix MINDA queries: LIC's Customer Experience Centre can help with this, 0800 2 MINDA
- Check out the MINDA app to record calvings anytime, anywhere
- Ensure calving difficulties get recorded in MINDA
- Report calf defects or abnormalities to LIC's Sire Proving team, 0800 777 832 or www.lic.co.nz/calfdefect



Anthony Lamborn, Photo credit: NZDIA

"I thought my responses through and gave honest answers - I wasn't trying to think of something they wanted to hear."

Anthony considers himself a "professional farm manager."

He manages the farm, near Nelson, on behalf of the Birchlea Trust.

"We milk about 680 cows but have about 120 carry-overs. Our cow shed is 640m above sea level with some paddocks above 700m," Anthony said.

Beside on-farm challenges, Anthony has for the past five years dealt with the additional personal challenge of mental health.

"I deal with anxiety and slight depression, and I'm happy to talk about it - it's quite common and the more we talk about it in society the better.

"My wife Rachel and my faith have been a massive support."

"The strength of the team is each individual member.

The strength of each member is the team."

- Phil Jackson (former American NBA professional basketball player, coach, and executive).



The Secret to Success through Premier Sires? The Team Concept

A Premier Sires team consists of elite bulls, all selected because they fulfil various criteria, the most important of which are Breeding Worth (BW) and traits other than production (TOP) - such as udder conformation, for example.

The purpose of Premier Sires teams is to allow farmers the chance to optimise genetic gain within their cows, through ensuring the next generation entering the herd are superior to their dams.

After every Animal Evaluation (AE) run - where DairyNZ updates statistics, data, and weightings that provide latest Breeding Worth calculations - a group of breeding advisors individually assess each LIC bull to ensure it continues to meet the standard of the Premier Sires brand.

There perhaps exists, among a small number of farmers, a misconception that Premier Sires are selected solely on BW.

This is not the case.

At times, LIC must forgo bulls that feature high in BW but don't live up to a range of other criteria (such as udder conformation).

Along with the assessment of phenotypic traits, bulls being selected for Premier Sires come under the microscope for their 'market fit': the sire selection team discusses in detail factors like inbreeding, recessive fertility genes, and ancestry.

Market trends and predictions are also taken account of.

This year LIC considers the fast-rising value of fat and what impact this might have (if any) on the Daughter Proven and Forward Pack teams, and the cooperative has launched its liquid A2/A2 team to fulfil an expected market demand for A2/A2 bulls.

Using a team of bulls increases reliability by spreading the risk of individual bull movements - that's among the true strengths of using Premier Sires.

Premier Sires provides farmer choice and offers a good deal of flexibility.

LIC is confident it's delivering the best LIC genetics for the best value, with all the analysis done on behalf of the New Zealand farmer.

Simply decide on the team of elite sires for you, and draft your cows out for mating.

The following pages display Premiers Sires team-weighted averages in TOP graphs, along with average production and liveweight information.

The graphs illustrate of how strong the teams are.

For individual bull data, refer to LIC's website: www.lic.co.nz/products-and-services/artificial-breeding

2018 Potential Holstein-Friesian Spring A2A2 Team

Sire	gBW/Rel%	A2A2	Sire	gBW/Rel%	A2A2		
117082	MULLINSBREVOLUTIONSZF	205/62	A2A2	117044	TELESIS G1 ESQUIRE SZF	171/63	A2A2
116124	SPRING TRALEE BEAT-ET SIF	200/68	A2A2	116039	ARKAN HF FREELANCE SZF	171/62	A2A2
117081	CAVALIER SB CASINO-ET SZF	197/62	A2A2				
116035	ARKAN MGH BESTSELLER SZF	193/65	A2A2				
116013	STOUJESBG TRIUMPHANT SIF	187/62	A2A2				
117063	HAZAEI SB MOSES-ET SZF	185/63	A2A2				
116080	KEASTS G1 SURETHING SZF	183/62	A2A2				
116016	GALATEA MGH REGIMENT SIF	180/67	A2A2				
117009	PAYNES MH AUSTIN-ET SZF	175/62	A2A2				
117035	BELLAWYS MH GAMBIT-ETSZF	174/63	A2A2				

WEIGHTED AVERAGES OF A2A2 PREMIER SIREs - \$184/98%

Management	-0.5	0	0.5	1	gBW/Rel%	184/98
Adapts to Milking	0.18			quickly	Milkfat gBV	29
Shed Temperament	0.18			placid	Protein gBV	33
Milking Speed	0.06			fast	Milk gBV	850
Overall Opinion	0.32			desirable	Liveweight gBV	37
Conformation	-0.5	0	0.5	1	Total Longevity gBV	400
Stature	0.62			tall	Milkfat gBV%	4.5
Capacity	0.30			capacious	Protein gBV%	3.8
Rump Angle	-0.08			sloping	Calving Dif gBV	1.4
Rump Width	0.33			wide	Fertility gBV	2.1
Legs	-0.04			curved	SCC gBV	0.01
Udder Support	0.43			strong	BCS gBV	0.07
Front Udder	0.30			strong	Bulls are genomically selected with LIC gBW & gBV's data - Data Source 14/05/2018	
Rear Udder	0.34			high		
Front Teat Placement	0.10			close		
Rear Teat Placement	0.22			close		
Udder Overall	0.42			desirable		
Dairy Conformation	0.36			desirable		



2018 Potential Spring Holstein-Friesian Daughter Proven Team

Sire	BW/Rel%	Sire	BW/Rel%	
111037	SAN RAY FM BEAMER-ET SZF	113070	GREENWELL FI BLADE S3F	177/98
114007	BUSY BROOK WTP VECTOR S3F	113120	BOTHWELL WT MAXIMA SZF	174/98
113009	HAZAEI SH DISTINCT-ET SIF	114023	ARKAN RAN BANDITO S3F	171/83
111036	ARKAN FM BUSTER-ET SZF	114041	MITCHELLS KE HUSTLER SZF	169/81
114106	HAZAEI FI JUBILEE S3F	110049	SAVANNAHS HF HAMMER SIF	168/99
112034	CARSONS FM CAIRO S3F	112032	JACLES BOY JAKS SZF	168/87
111011	ASHDALE FM KELSBELLS SIF	113046	MEANDER ROCKETMAN-ET SIF	167/87
111067	BYREBURN PF ETERNAL SZF	187/98	RIVERHEIGHTS GB ROGUE S3F	166/98
114032	WOODCOTE FI MASTERMIND	184/82	BAGWORTH PF GRANDEUR SIF	158/99
112054	BAGWORTH SH KEEPSAKE SZF	181/86	MAIRE IG GAUNTLET-ET	149/86

WEIGHTED AVERAGES OF PREMIER SIREs - \$199/99%

Management	-0.5	0	0.5	1	BW/Rel%	199/99
Adapts to Milking	0.27			quickly	Milkfat BV	32
Shed Temperament	0.26			placid	Protein BV	30
Milking Speed	0.16			fast	Milk BV	715
Overall Opinion	0.39			desirable	Liveweight BV	41
Conformation	-0.5	0	0.5	1	Total Longevity	422
Stature	0.65			tall	Milkfat BV%	4.7
Capacity	0.41			capacious	Protein BV%	3.8
Rump Angle	-0.15			sloping	Calving Dif	1.4
Rump Width	0.36			wide	Fertility BV	3.0
Legs	0.02			curved	SCC BV	-0.19
Udder Support	0.46			strong	BCS BV	0.13
Front Udder	0.33			strong		
Rear Udder	0.31			high		
Front Teat Placement	0.08			close		
Rear Teat Placement	0.35			close		
Udder Overall	0.42			desirable		
Dairy Conformation	0.46			desirable		

2018 Potential Spring Holstein-Friesian Forward Pack Team

Sire	BW/gBW/Rel%	Sire	BW/gBW/Rel%	
111037	SAN RAY FM BEAMER-ET SZF	116065	DICKSONS BG MANDATE SIF	203/67
114007	BUSY BROOK WTP VECTOR S3F	116036	ARKAN MGH BACKDROP-ET SZF	201/68
113009	HAZAEI SH DISTINCT-ET SIF	117066	MEANDERTT ASSET-ET SZF	192/57
111036	ARKAN FM BUSTER-ET SZF	116077	MEANDER ML RAMPANT SIF	183/62
114106	HAZAEI FI JUBILEE S3F	117021	TAFTS TT OFFICIAL-ET SZF	183/59
112034	CARSONS FM CAIRO S3F	117093	PRATTLEY GI VIGILANTE SZF	182/62
111011	ASHDALE FM KELSBELLS SIF	117088	SPRING RIVER OL SCOUT SZF	178/59
111067	BYREBURN PF ETERNAL SZF	116002	RIVER HEIGHTS DUDE-ET SZF	171/68
116037	ARKAN ML BABYLON-ET SIF			
117051	BUSY BROOK SB FORTUNE SZF	207/61		

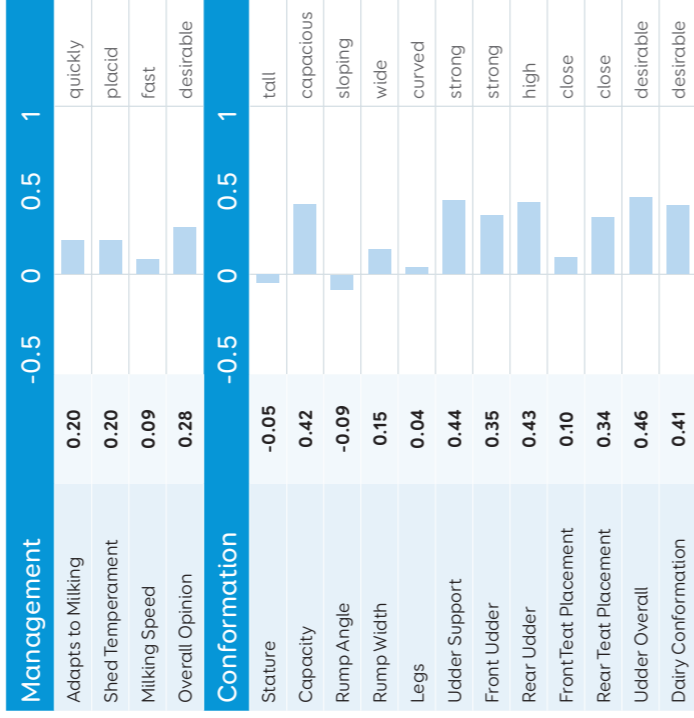
WEIGHTED AVERAGES OF PREMIER SIREs - \$212/98%

Management	-0.5	0	0.5	1	BW/gBW/Rel%	212/98
Adapts to Milking	0.24			quickly	Milkfat BV/gBV	33
Shed Temperament	0.22			placid	Protein BV/gBV	31
Milking Speed	0.15			fast	Milk BV/gBV	716
Overall Opinion	0.37			desirable	Liveweight BV/gBV	40
Conformation	-0.5	0	0.5	1	Total Longevity BV/gBV	448
Stature	0.63			tall	Milkfat BV/gBV %	4.7
Capacity	0.35			capacious	Protein BV/gBV %	3.9
Rump Angle	-0.09			sloping	Calving Dif BV/gBV	1.0
Rump Width	0.38			wide	Fertility BV/gBV	3.5
Legs	0.04			curved	SCC BV/gBV	-0.17
Udder Support	0.36			strong	BCS BV/gBV	0.14
Front Udder	0.19			strong	Shaded Bulls are Daughter Proven with AEU BW & BV's - 14/05/2018 AE	
Rear Udder	0.23			high	Non Shaded bulls are genomically selected with LIC gBW & gBV's data - Data Source: 14/05/2018	
Front Teat Placement	0.03			close		
Rear Teat Placement	0.25			close		
Udder Overall	0.30			desirable		
Dairy Conformation	0.41			desirable		

2018 Potential Spring KiwiCross™ A2A2 Team

Sire	gBW/Rel%	A2A2	Sire	gBW/Rel%	A2A2
517042	LUCK-AT-LAST INSPIRED-ET	245/62	A2A2	517057	TARAMONTA QUATIC-ET
517049	CAVALIER CALLAWAY	234/63	A2A2	517069	BROOKSTEAD CADENCE
517047	MARSHALLS SILVER LINING	228/62	A2A2		
516055	BRAEMARK BATTLE AXE	225/63	A2A2		
517061	BAILEYS ROYALTY	225/62	A2A2		
517026	HOWSES SPRINGFIELD	224/60	A2A2		
515100	MORGANS MITIGATE	217/60	A2A2		
516043	ARKANS BOOMBOX-ET	205/59	A2A2		
515011	LYNSKEYS LIAM	198/65	A2A2		
517053	BURMEISTERS BREWSTER	196/64	A2A2		

WEIGHTED AVERAGES OF A2A2 PREMIER SIRES - \$215/98%



gBW/Rel%	215/98
Milkfat gBV	28
Protein gBV	23
Milk gBV	354
Liveweight gBV	1
Total Longevity gBV	387
Milkfat gBV%	5.0
Protein gBV%	4.0
Calving Dif gBV	-0.2
Fertility gBV	2.4
SCC gBV	-0.17
BCS gBV	0.10

Bulls are genomically selected with LIC gBW & gBV's data - Data Source: 14/05/2018



2018 Potential Spring KiwiCross™ Daughter Proven Team

Sire	BW/Rel%	Sire	BW/Rel%
511011	PRIESTS SIERRA	243/98	511051
511026	ARKANS BEAUT ET	210/99	513016
513054	BURGESS TRICKSHOT ET	210/82	
514018	GLEN KORU EPIC	210/80	
514015	GLEN KORU ETHOS-ET SIF	197/91	
513074	SCHRADERS TUSK	197/85	
512005	JUST ONCE COOPER	196/85	
513015	HORIZON CONSCRIPT ET	196/85	
512050	ARKANS PERSPECTIVE-ET	191/94	
513050	WOODHEYS SPEED DIAL	189/98	

WEIGHTED AVERAGES OF PREMIER SIRES - \$206/99%

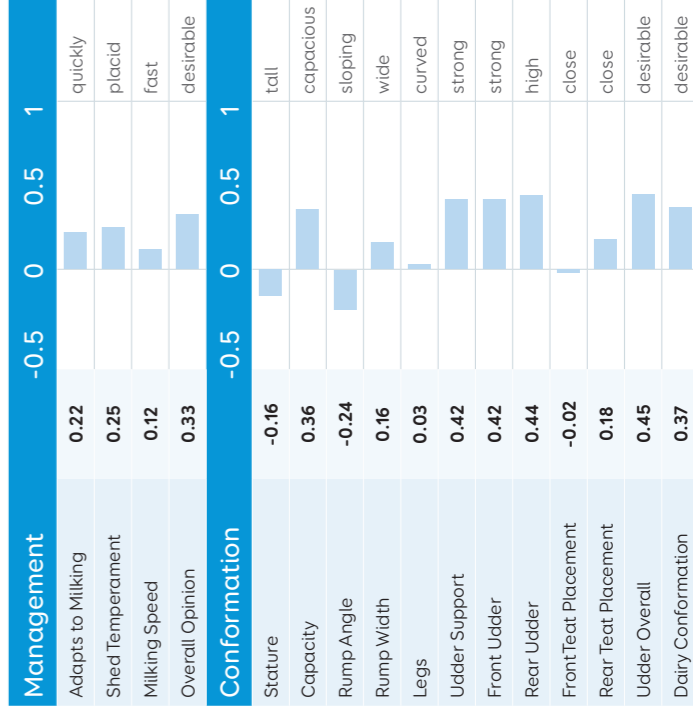


BW/Rel%	206/99
Milkfat BV	27
Protein BV	21
Milk BV	363
Liveweight BV	1
Total Longevity	384
Milkfat BV%	5.0
Protein BV%	3.9
Calving Dif	-0.5
Fertility BV	2.8
SCC BV	-0.15
BCS BV	0.05

2018 Potential Spring KiwiCross™ Forward Pack Team

Sire	BW/gBWRel%	Sire	BW/gBWRel%
514017	GLEN KORU BECKON	260/84	516024
511011	PRIESTS SIERRA	243/98	517001
513098	ARKANS BOUNTY	221/97	517054
512048	ATHLIAM PACEMAKER	217/98	516074
513066	MOURIES LUIGI	215/84	517074
514018	GLEN KORU EPIC	210/80	517075
517067	CAWDOR PINNACLE	246/62	
517043	GLEN KORU PROCLAIMER-ET	242/63	
517021	HORIZON BANZAI	240/62	
517023	HORIZON BOULEVARD-ET	235/60	

WEIGHTED AVERAGES OF PREMIER SIRES - \$228/98%



BW/gBW/Rel%	228/98
Milkfat BV/gBV	29
Protein BV/gBV	21
Milk BV/gBV	285
Liveweight BV/gBV	-7
Total Longevity BV/gBV	406
Milkfat BV/gBV %	5.1
Protein BV/gBV %	4.0
Calving Dif BV/gBV	-0.5
Fertility BV/gBV	5.1
SCC BV/gBV	-0.14
BCS BV/gBV	0.08

Shaded Bulls are Daughter Proven with AEU BW & BV's - 14/05/2018 AE[®]

Non Shaded bulls are genomically selected with LIC gBW & gBV's data - Data Source: 14/05/2018



2018 Potential Spring Jersey Daughter Proven Team

Sire	BW/gBW/Rel%	Sire	BW/Rel%	
314052	CRESCENT EXCELL MISTY ET	267/82	BONACORD MURMUR BOLT	204/99
314022	LINAN INTEGRITY WINSTON	241/88	BELLS CM CONRAD SZJ	192/87
312034	OKURA GOLDIE INDEX	228/85		
311013	OKURA LT INTEGRITY	224/99		
313046	OKURA OLM KAINO ET	222/98		
314049	COOMBES MANZ CHIEF ET	219/84		
313023	CRESCENT EXCELL MONOPOLY	216/84		
314004	BELLS OI FLOYD S3J	211/92		
314013	TIRONIJI AND STELLAR	209/80		
314012	KAITAKA OI LEOPARD ET	206/87		

WEIGHTED AVERAGES OF PREMIER SIREs - \$222/99%



BW/Rel%	222/99
Milkfat BV	26
Protein BV	5
Milk BV	-386
Liveweight BV	-45
Total Longevity	326
Milkfat BV%	5.8
Protein BV%	4.3
Calving Dif	-2.2
Fertility BV	1.5
SCC BV	-0.14
BCS BV	0.14

AE 14/05/2018

2018 Potential Spring Jersey Forward Pack Team

Sire	BW/gBW/Rel%	Sire	BW/gBW/Rel%		
314052	CRESCENT EXCELL MISTY ET	267/82	317010	BELLS LT FULLSPEED S3J	213/65
314022	LINAN INTEGRITY WINSTON	241/88	316038	DEEP RIVER PCG FAVOUR	213/65
312034	OKURA GOLDIE INDEX	228/85	317049	SHELBY SS LORENZO S3J	206/65
311013	OKURA LT INTEGRITY	224/99	317048	GLANTON SS BALTIC ET S3J	201/65
313046	OKURA OLM KAINO ET	222/98	317039	COOMBES TRIG JUNCTION ET	197/57
314049	COOMBES MANZ CHIEF ET	219/84	316036	FOXTON PG COYOTE ET S2J	194/66
317023	SHEPHERDS LT FLINT ET S3J	244/66			
315059	BONACORD AND BERNARD SZJ	221/68			
316035	FOXTON LT FIXATION SZJ	220/66			
317037	GLENVUE OI MIGHTY	217/66			

WEIGHTED AVERAGES OF PREMIER SIREs - \$229/98%



BW/gBW/Rel%	229/98
Milkfat BV/gBV	26
Protein BV/gBV	4
Milk BV/gBV	-398
Liveweight BV/gBV	-50
Total Longevity BV/gBV	320
Milkfat BV/gBV %	5.8
Protein BV/gBV %	4.4
Calving Dif BV/gBV	-2.1
Fertility BV/gBV	1.4
SCC BV/gBV	-0.14
BCS BV/gBV	0.17

Shaded Bulls are Daughter Proven with AEU BW & BV's - 14/05/2018 AE
 Non Shaded bulls are genomically selected with LIC gBW & gBV's data - Data Source: 14/05/2018

PW change-up

When it comes to MINDA reports, somatic cell count and production worth have traditionally been treated separately - this despite being closely intertwined in an on-farm, practical sense.

The most obvious example is culling - somatic cell count and production worth are big influencers in deciding which cows to remove from the herd.

For some time, LIC has wanted to make both considerations seamless, so in February it added somatic cell count (SCC) as a fifth factor in the production worth (PW) calculation.

As with other production traits, somatic cell count data is sourced from herd testing information, but only from the cow's first three lactations.

PW primarily focuses on information from the first three lactations so farmers can highlight the lifetime production potential of their younger cows, enabling them to make decisions on whether they should be retained in their herd.

Cows not herd tested have an 'estimated' somatic cell score production value, based on ancestry information only (and heterosis effects if the animal is a crossbred). The associated reliability is relatively low, indicating the lack of available information.

New Zealand Animal Evaluation Limited (NZAEL) provides the economic values for all PW traits including somatic cell, based on the national and industry good economic models it operates.

What this means for your cows
Since February this year, farmers may have noticed changes in the PW of their cows after the Animal Evaluation updates, reflecting somatic cell scores from their first three lactations.

Across all breeds, half of all cows were expected to move less than 10PW.

At an individual animal level, some extreme movements may have been observed if high levels of SCCs were recorded in the earlier years of an animal's productive life.

What's next?
Over the next 12 months, LIC's work on PW will continue.

LIC has held off adding the fertility and BCS traits to PW so further work can be done.

Specifically, the cooperative needs to determine the best way to include phenotypic information (actual records, such as mating and calving data) for fertility and BCS, and how they should be valued in PW.

Cows with ongoing issues with high somatic cells probably still eat the same, but are more likely to produce less and cost more (in health treatments, for example).

And cows identified with low PW are likely to be of lower value to the farmer, because recorded traits suggest they will be less-efficient convertors of feed to milksolids over their lifetime.

WHAT FARMERS ARE THINKING:

"It's nice to see PW heading in a direction which gives a picture of the cow's profitability as a whole - the big picture, including her health and her fertility. The PW calculation seems set to become a lot more comprehensive."



Michelle Burgess,
350 cows,
Te Poi.

"I'm pleased to see PW evolving at last, because the industry dynamics have changed but until now, PW hasn't."

"With the inclusion of Somatic Cell Count in PW, it'll allow us (farmers) to pick our easy-care cows with more accuracy. Over the long term and across the national herd, I'm sure we'll see overall profit margins of farmers increase as a result."



Wayne Reynolds,
515 cows,
Gordonton.

"I've always believed somatic cell count (SCC) should be included in PW," Lewis, Federated Farmers Dairy Industry Group chair, said.

"We as farmers need to focus more on these traits to quickly breed cows that future generations of farmers will need."



Chris Lewis,
1150 cows,
Pukeatua.

Look out for early infection

By Taryn Barnett, LIC herd test business manager



Taryn Barnett

Once calving is done, get the new season off to a solid start by using the first set of herd test information to improve udder health and milk quality.

Early infections can permanently depress a two-year-old's production, so chances are it'll pay good dividends to track new infections by identifying individual animals that are causing the bulk milk somatic cell count (SCC) to rise.

If heifers with high or moderately-high SCC can be identified through the first

herd test, the vet can be consulted for the best course of action.

Addressing potential issues early-on, particularly among younger stock, gives the animal a greater chance of reaching its lifetime potential.

Grading or not - lowering the bulk milk SCC is likely to increase milk production.

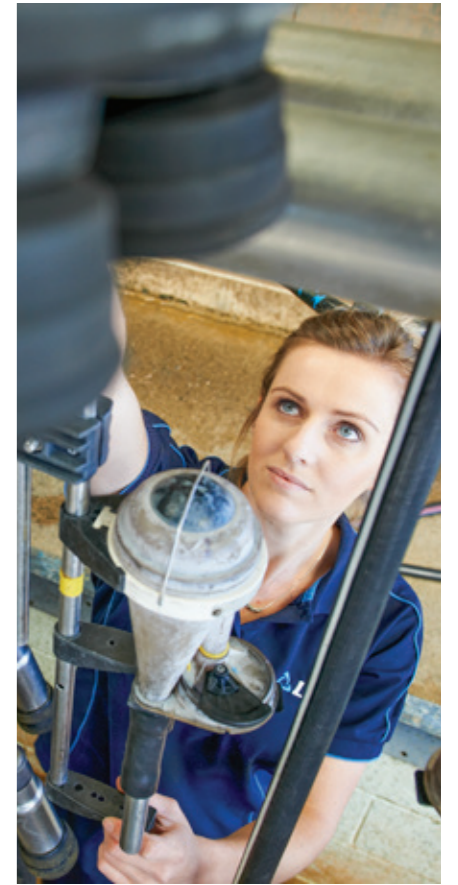
For example, in moving SCC from 250,000 (cells/mL) to 150,000 (cells/mL), it's estimated by DairyNZ that up to 1.5% more milk can be expected annually (Smartsamm gap calculator, August 2014, DairyNZ).

Translated across an average herd of 419 cows doing 372 kg/MS, that equates to a financial benefit of up to \$15,785 (at a \$6.75 payout).

The side benefit should be a significant decrease in animal health costs.

Herd testing reports show which animals have repeatedly exceeded the SCC threshold, and should assist later in the season when it comes to culling decisions.

The reports also help many farmers and their vets with strategic, selective dry cow treatment decisions.



Better information. Better knowledge. Better decisions.

Better herd test.

- Herd testing provides farmers with certified quality animal production information.
- It identifies high - and low-producing animals.
- It helps clarify health issues.
- It assists with management decisions on farm.
- On average, most farmers herd test three to four times throughout the season.
- Herd test data is translated into a comprehensive range of animal performance reports.





Consult your FarmWise consultant about body condition score, feed budgets, and mating plans.

Words from the Wise Guy

Clarity and purpose is a great stress reliever, have you got what it takes?

By Edward Hardie, National farmwise manager



Edward Hardie

In this article, National FarmWise Manager Edward Hardie recommends areas for sharp focus in the lead-in to balance date, when pasture demand meets pasture supply.

Like all business, dairying is about managing risks and attention to cost margins.

You have to be awake to make good decisions – so if you run a spring calving herd, you'll need a break: Take it, you can't afford not to. It's imperative to re-charge the batteries and take a break from daily milking.

Spring is critical for the success of the season ahead. The more you plan and prepare now, the better. Clarity and purpose is a great stress reliever.

A risk review should be undertaken, including your practices and processes for managing feed supply, personnel, health and safety, animal welfare, and environmental challenges.

Re-check your feed demand requirements and costings to review if, and what, supplements could be bought to cover the requirements of your farming system.

Prepare – know the cost structures so when you make purchases you know what you can afford to satisfy your comfort levels and business margins.

If you need a hand get your farm advisor to help; it is vital you set yourself up well for the season ahead before spring hits.

Feed demand

How's your feed budget tracking? Keep track of your weekly pasture covers using a plate meter (or eye-ometer if necessary!) to ensure you know the feed status and paddock growth rates.



Know your feed status and paddock growth rates.

Manage your winter grazing, crop use, and supplements to minimise waste, pugging, and pasture damage (and maximise utilisation).

Check your winter feed use is going to plan and check your spring rotation planner.

Ask yourself:

- Are there unexpected feed shortages?
- What if it doesn't go to plan; what will be done to plug feed gaps?

A back-up plan, and knowing when you'll buy or use stored supplement, is critical in minimising unplanned expenses.

Correcting a feed shortage early is always the best solution. The alternative, of chasing grass cover with diminishing rotation lengths before pasture balance date, can be an expensive feed hole to fill, with limited options.

Remember that fat evaluation index (FEI) penalties come into force for Fonterra farmers from 1 September 2018. If you have planned for palm kernel (PKE) use, review what quantities you expect to use and when.

What's your plan if you start getting into the FEI penalty zone?

Personnel

Plan in detail staff rosters from 'calving start' through to the 'end of mating'.

There are social requirements in getting the best from your staff and ensuring that they have adequate time off to perform well. This has a dual effect of minimising the risk of health and safety issues.

There are also risks in failing to ensure everyone is on board: staff need to be clear about what they need to do, and when.

Is everyone adequately trained? If not, run through your on farm practices and how you expect operations to be carried out, and what to do in cases that deviate from plan. Ensure all staff are reminded of the farm hazards and mitigation measures.

Calving

Ensure your calving plan is well sorted, with housing and equipment ready to go.

Fast five:

1. What procedures do you have in place for calf pick up and care?
2. Are your people adequately trained and know how to maximise animal welfare benefits (getting calves in, comfortable, safe and well fed)?
3. Is the loading ramp and holding pen all sorted and ready for use?
4. Are all personnel aware of what the 'before-calf-travel' (fit for transport) requirements are, including withholding periods?

5. What's your system for recording calved cows and calves and ensuring you get the information in MINDA?

Get everyone familiar with the MINDA app because this will save time.

If using GeneMark identification for replacement calves, still record the mother's calving dates and minimise the risk of the MINDA yellow notebook going missing (information that's likely to be helpful in later herd analysis).

Make sure records are 100% correct before calvings begin (consider the LIC Herd Assist service to help in this area). Set up the yellow notebooks for calf recording with the MINDA Calvings by Cow report.

Cow condition

Keep a close eye on cow condition.

Reaching Body Condition Score (BCS) benchmarks is essential in setting up for calving, early lactation, and mating.

A pre-calving condition score of 5 is a key factor in mating performance later, and it's perhaps the easiest solution in improving reproductive performance.

If you're unsure on BCS, engage an accredited BCS person to help. See p30.



Breeding toward an A2/A2 herd?

LIC's launch of A2/A2 fresh-liquid Premier Sires teams in late-February coincided with a2 Milk Company's (a2MC) announcement of a "comprehensive strategic relationship" with Fonterra.

Other suppliers have since publicised their plans to build dedicated factories for A2 milk processing.

This has driven increased farmer interest in breeding toward A2/A2 cows, but Greg Hamill, LIC business manager, says the motives at play in the industry aren't necessarily about chasing market premiums for the A2/A2 milk.

Other motives might range from stock sales to a desire to supply a market alternative.

"And breeding toward A2/A2 cows doesn't necessarily have to come at a cost of genetic gain," Greg says. "You'll notice in LIC's KiwiCross Premier Sires A2/A2 team that the BW for that team

is higher than that of the KiwiCross daughter proven Premier Sires team.

"At the end of the day, various sets of farmers have different breeding objectives, and A2 is one of many within the market. LIC have options to meet all these breeding objectives, and this year we've included the A2/A2 Premier Sires liquid team.

"This is about LIC responding to meet the growing interest in this area."

What's the difference between A1 and A2 milk?

A major component of milk proteins is casein (80%), and the most common of these beta-casein variants are A1 and A2.

Every animal has two copies, or alleles, of the beta-casein gene: An animal can be A1/A1, A1/A2 or A2/A2.

Only animals that are A2/A2 will produce milk that contains only A2 beta-casein (A2/A2 milk).

A short segment of the A1 casein protein is known to have biological activity in the intestine, but A2 does not have this activity.



Wayne McNee, LIC chief executive

The status of A2/A2 milking cows among main dairy breeds:

Wayne McNee, LIC chief executive, says the frequency of the A2/A2 allele (gene pair) across the national dairy herd has naturally increased over time: It is currently at 55% for Crossbreds; 65% for Jerseys, and; 45% for Holstein-Friesian.

"The problem is most farmers won't know which of their animals fall into this A2/A2 category, which is where genotype or milk testing comes in," McNee says.

"To get an A2/A2 herd, farmers need to know (through testing) the status of each of their animals. Then they can mate those animals with A2/A2 bulls and they will know which replacements to keep and rear for the herd.

"It could take up to 20 years for the average dairy farmer to build an A2/A2 herd by selective breeding alone. With testing, it'll take seven (years)."



Jack Hooper, LIC principal advisor

A2/A2 milkers: how to increase the numbers

Jack Hooper, LIC principal advisor, says there are broadly three strategies open to farmers wishing to breed toward A2/A2 milking cows. He penned the following:

Long-term approach: Using A2/A2 semen only

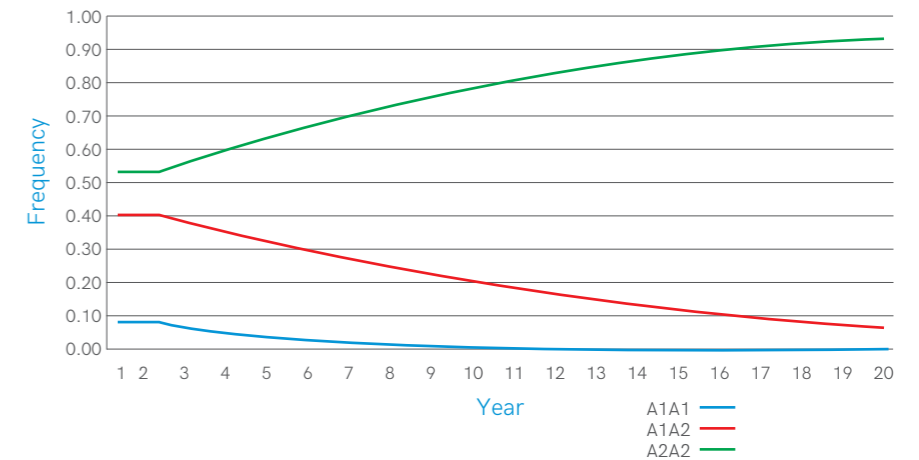
The rate of moving a herd toward producing milk containing only A2/A2 milk is influenced by the frequency of the allele at the commencement of the breeding programme, together with the replacement rate of two-year-olds entering the herd.

The rate of progress slows with successive generations, and could take 15 to 20 years to increase the A2 content of milk to a level in excess of 90 percent. The herd would become close to the ideal, but cannot achieve A2/A2 status completely (a more aggressive approach would be necessary).

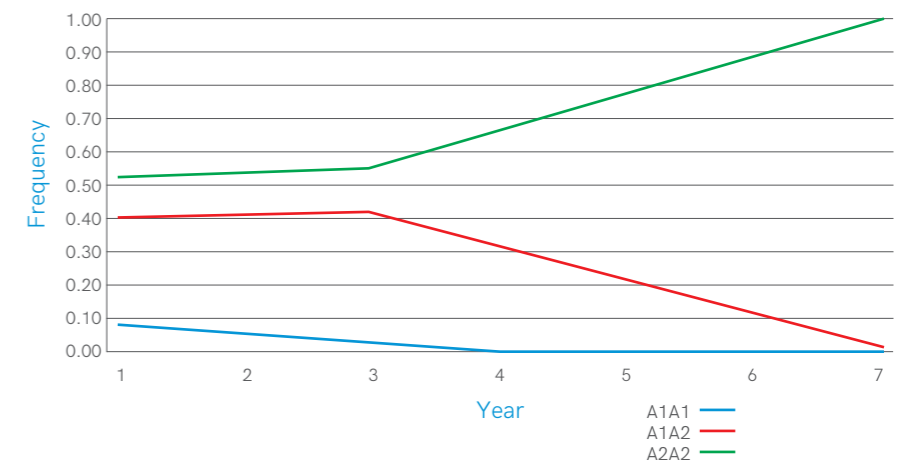
Without a corresponding market premium, the opportunity cost is not being able to breed replacements from all bulls that have semen available for alternative breeding programmes (in some cases,

Mating herd to A2 bull team - allele frequency change is slow

Change in Genotype Frequency



Mating to A2 team, genotype/milk testing, and not retaining calves from A1A1 cows



for example, a single-focus on breeding toward higher BW, or breeding for better udders, across the herd).

Medium-term approach Elements:

- Utilising semen from A2/A2 bulls
- Using specific breeding management programmes (for example, heifer matings and longer AB periods)
- Testing (genotype or milk) to identify the beta-casein type status of individual cows.

Breeding and culling decisions can be made on the basis of the beta-casein status, with the initial cull target group being A1/A1 cows.

An aggressive approach could convert the herd to A2/A2 milk much more quickly and possibly within a 10-year timeframe.

As with the long-term approach, without a corresponding market premium the opportunity cost is likely to be an inability to breed replacements from all bulls

that have semen available for different breeding programmes/objectives.

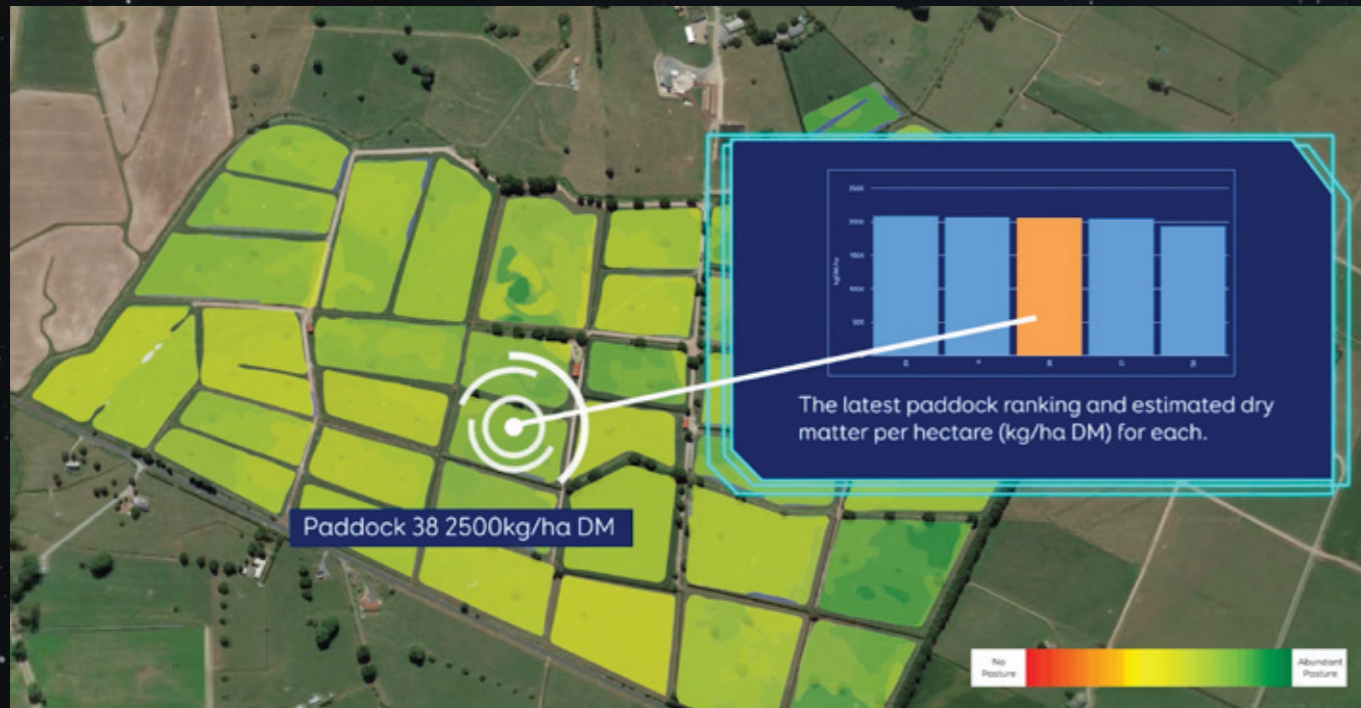
The ramifications could include being unable to breed suitable A2/A2 replacements from all high-index cows within the herd, and depending on the level of aggression, having to forgo some opportunity to maximise mature cow production.

Fast-track approach

Extensive use of genotype or milk testing to test cows from 'other herds' and purchasing tested cows with both copies of the A2 allele.

The cost differential is likely to increase as awareness levels grow and the availability of suitable cows declines (in the short to medium-term, at least).

Advanced breeding programmes using embryo technologies or sexed semen could influence the rate of change toward the herd's ability to supply milk that only contains the A2 beta-casein.



Canterbury manager's approach to breeding & feeding

With an empty rate that has crept up to 16%, Canterbury farm manager Craig Smith is making body condition score recovery (post-calving) a focus this year, just as he did last season.

"If we get consistency across the herd in terms of putting weight on across the herd in the lead up to mating, we'd go some way toward driving that (empty rate) down," he says.

The relatively high empty rate is about normal for the Rakaia area, Craig says, but it was only a matter of a few years ago that his farm ran at 13 to 14%.

"Personally, I think the higher empty rates we've seen over the past few seasons are a result of the new induction regulations. You can no

longer have a 15 - to 18-week mating programme and turn around and induce six weeks' worth.

"Also the lower payouts a few years ago probably caused people to not want to spend too much on repro, and it's ballooned from there."

In-shed technology, repro, & AB

Craig believes good feed management is crucial to successful mating and reproduction results, and his Protrack system - installed in the 54-bail rotary shed - helps keep the cows topped up throughout feed pinches.

"We've got the EZ Heat camera in the rotary too, which guide us in who's likely to be on-heat. We're keen on driving down our empty rate, but our six week in calf rate is about 69% and we'd like to see that increase over the next few years."

Because the farm had previously supplied cows to generate numbers at other family trust-owned properties, big strides in genetic gain hadn't been possible until about three years ago.

Since that time, Craig has avoided mating the bottom 10 percent of the herd to replacement-quality semen.

"We use Premier Sires Daughter Proven for the first six weeks of mating, and put the lower-end cows to dairy beef. We then do three weeks to beef and finish off with three weeks of SGL (short-gestation length semen)."

The farm & the feed wedge

The farm, which peak-milked 885 "mainly Friesian" cows last season, consists of 24 paddocks of various sizes, spread across 232 hectares.

The flat terrain and location made the farm a good fit for LIC's new pasture satellite solution, SPACE, which Craig trialled last year and has continued to use throughout 2018.

SPACE stands for Satellite Pasture And Cover Evaluation; it uses satellite imagery to assess a farm's pasture cover paddock-by-paddock.

The technology has been assessed by FarmWise as being as accurate as farm walk data gathered via a plate meter (NB: weather conditions, including cloud, can restrict the satellite's ability to get a clear image, meaning the frequency of reports will vary; however

every time the satellite captures a clear image of the farm, a report is sent then following day).

Craig says pasture management is central to his decisions when switching between once-a-day, 16-hour milkings, and twice-a-day regimes, and is key in deciding how much supplement to feed when cows come in to be milked in the rotary.

For example, earlier this year when growing conditions were consistently good (i.e. late summer and early-autumn) the cows were on 16-hour milkings, with no compromise to production, Craig says.

Meanwhile, this allowed the round to be gradually slowed in preparation for winter.

This season, post-calving, Craig will put the cows on once-day-milking for about the first 10 days of the lactation in an effort to boost body condition score ahead of mating, before "letting the cows and the round go" in the farm's build-up to peak production.



Craig Smith, Rakaia farm manager

"There's a lot of money involved in getting it (pasture management) right," Craig says.

"I rely on regular pasture cover data, and if that's happening then the SPACE system is doing what it should... it's rare that Canterbury goes 10 days without a clear day."

SPACE's pasture information is automatically processed and packaged in to a spreadsheet, providing a ranking of paddocks based on available dry matter, together with a feed wedge graphic that shows the overall feed situation across the farm.





Repro & the Path to Success

Getting the mating results you want means keeping your eye on the ball throughout the season.

By Nicola Hemming, LIC reproduction solutions advisor



Nicola Hemming

For many farmers, calving is just around the corner, so mating is may be of little concern right now. But putting spring tasks on the back-burner during calving may mean missed opportunities to set the herd up for a great mating.

Here are some key areas of focus to stay on the path to mating success:

Minimise body condition score (BCS) loss after calving:

Cows that lose one condition score or less get back in-calf earlier than the cows that lose more* than one condition score.

- Have a transition management plan in place, especially for transitioning on and off crops
- Monitor for feed pinches and adjust feeding if needed (point #2 on page 88 of DairyNZ's InCalf book)
- Preferentially manage/feed your:
 - (1) young (first and second calvers);
 - (2) light, and;
 - (3) sick cows

Minimise health issues:

Cows that suffer health problems at calving or during early lactation often have lower reproductive performance[^].

- Consult your vet about prevention strategies
- Ensure adequate minerals are supplied (based on your herd's needs/ veterinary recommendations)
- Monitor for, and actively manage (if needed) infectious diseases such as BVD
- Limit the impact of health problems by quickly identifying and treating sick cows
- Ensure all staff are able to identify, record, and treat sick animals

Identify animals that are below target and manage them preferentially

Calving BCS is one of the key determinants of mating results*. If 75% or more of your herd calve at their target BCS score, congratulations!... you've given your cows a great start to the season.

If your cows calve below their target BCS, the options below may help lessen the impact when it comes to reproductive results:

- Put the cows in a separate mob
- Increase feed allowance/ supplementation
- Ensure pasture/supplements fed are high quality/metabolic energy
- Put the cows on once-a-day: This could be from calving, or at least one month out from the start of mating
- Have a non-cycler treatment plan in place for those identified as 'not cycling 10 days before mating starts'

Cows don't put on BCS in the last month before calving*, so for those farmers more than a month out from calving, you still have time to work on your cows' BCS.

Closely monitor BCS and adjust feeding to help ensure every cow will calve at her target BCS.

Small changes

You don't need to make wholesale changes to your calving plan or early lactation management, but making a few tweaks to your everyday decisions may help to the girls get ready to roll at mating time.

For more advice, talk to your rural advisor and check out chapter 11 & 12 in the updated DairyNZ InCalf book.

*The DairyNZ InCalf book (2nd edition), chapter 11

[^]The DairyNZ InCalf book (2nd edition), chapter 12

AB facilities up to scratch?

Is your farm gold, silver, bronze or non-compliant in its AB standards?

When it comes to artificial breeding facilities, it's a contrasting tale of standards between the two Te Puke farms owned by Bobby Dean and his parents, Bruce and Debbie.

"Our home farm's AB facilities are gold status," says Bobby.

"We've got a few minor things still to do before AB starts - to do with signage and hygiene."

The main farm, milking 650 cows, boasts a large shaded area and infrastructure that can hold between 16 and 20 Holstein-Friesians for AB.

"We've built it up over the years, it used to hold only 10 cows at a time, but we expanded it because we wanted it to hold at least the number of straws the technician has - normally Hayden (the AB Technician) has 15 straws at a time," Bobby says.

"We're at gold standard but we need to mark where the entrances are and decide where to put the foot bath - we normally have a hose and brush but we need to go a bit further than that and have a dedicated spot for biosecurity and hygiene.

"Hayden likes it because it's the first farm on his run. We're able to start milking and by daybreak (6am) - when we're about three-quarters of the way through milking, we'd usually have about 30 cows set aside ready for AB.

"Because the facility is completely independent of milking, the technician can start his job. By the time we've finished milking, all the cows are drafted and he'll be nearly finished AB.

"It's very efficient."

But the facilities of their small farm down the road, which milks 175 Holstein-Friesians, don't yet reach the bronze standard.

Bobby says the infrastructure will be fixed up during dry-off so they're all-set for spring.

"At the smaller farm, when we do big jobs like CIDR'ing, it's so enclosed and it's not very good for loading (a standard task for an AB Technician).

"It's too close and cramped, and makes workers too vulnerable because you're

loading straws in the centre of the shed. If we're doing CIDR'ing and the technician comes, he'll load somewhere else and then bring in the straws. It's not ideal.

"Then, on a normal day, we'll just use the vet bail for AB which is outside the rotary - but that's part of the exit race from the shed.

"So we're fixing that up to make it better. We're cutting the vet bail, and setting up two gates so that the row of cows can be shut off and the technician can come in from the side, so he'll be secure and the cow should be nicely settled," Bobby says.

"The cows behind won't be able to keep pushing up. With the gate, the one cow that's getting inseminated won't be able to back up.

"That'll bring it up to bronze standard for AB. Because it's a small farm and typically has only up to five cows a day for insemination, it's hard to justify a big investment. Ideally we'd get something like this (the gold-standard farm's facilities), but it can't be justified right now - maybe in time."



Bobby Dean inside his gold-standard AB facility.

- LIC's AB Facilities solutions team is visiting farms nationwide checking facilities and discussing on-farm biosecurity with farm owners and managers.
- The purpose is to improve the standard of AB facilities, helping farmers get better repro results and improving on-farm health and safety.
- Herringbone sheds are being addressed first, as well as grazing locations where AB is carried out, followed by farms with rotary sheds.
- LIC's aim is complete all facility visits by the beginning of the spring AB season.
- At the visit, facilities are graded non-compliant, bronze, silver, or gold.
- The minimum standard, bronze, incorporates recommended requirements by WorkSafe NZ.
- Farmers are encouraged to achieve gold status, but as long as bronze is met no further action is needed.
- Non-compliant facilities come with feedback on specific changes needed.

On the Cutting Edge: Genomics

By James Mills, LIC genetics product specialist



James Mills

The emergence of genomics since 2008 has seen a young bull's reliability in genomic breeding worth (gBW) increase considerably, from 35% to an estimated 55-65%.

This improvement has driven a step-change for many leading artificial breeding companies around the world, and the industry is beginning to see progeny test schemes move away from traditional models, and in some cases, abandoned altogether.

LIC has no intention to stop progeny testing, but the cooperative is increasingly using genomic selection in conjunction with its Sire Proving Scheme (SPS) to drive genetic gain in New Zealand.

LIC was an early adopter of genomic technology, and our scientists' understanding of it has come a long way in the 10 years we've been marketing genomically selected teams.

To date tens of millions has been invested by LIC, and more than 140,000 genotypes have been accumulated to create our reference dataset.

It has been challenging taking on this new approach to bull selection, and a lot of crucial learnings have been made along the way.

With significant improvements in technology, and much larger datasets, LIC is today able to assess the performance of its 2013 and 2014 Forward Pack teams.

These once-young genomically selected bulls now have their daughter proofs, giving LIC analysts the ability to compare the bulls' performance against their predicted team BWs.

The results are outstandingly positive: They confirm those teams delivered the predicted BW advantage over LIC's 2013 and 2014 Daughter Proven teams.

On the back of this, Forward Pack popularity and demand continues to increase, with a massive 50% growth in straw sales last year.

With the increased level of genomic accuracy, we're seeing a more-favourable group of young bulls now entering SPS each year.

However, LIC believes there's always room for improvement, and the research and development team has been finalising significant new enhancements.

The enhancements suggest LIC will be able to take another step forward in genomic predictions this coming season.

This year LIC has launched a new liquid A2 range for both Holstein-Friesian and KiwiCross.

The teams are comprised of bulls selected on both genetic merit and strong ancestry.

The bulls in these teams have two copies of the A2 protein allele, and are designed for customers wishing to breed specifically for an A2 animal, paying a reduced price compared to LIC's frozen alternatives.

The ability to increase selection intensity of young bulls with increasing accuracy promises a great deal, not least of which is a positive impact on the New Zealand dairy herd.

The journey has been exciting and LIC looks forward to continuing to drive genetic gain on behalf of its shareholding farmers and the New Zealand dairy industry in general.



Sexed semen boosts replacement options and frees up alternative mating options.

Sexed Semen? Make it liquid, make it fresh

By Greg Hamill, Genetics business manager



Greg Hamill

Results from a recent 'frozen sexed semen field trial', done in conjunction with Sexing Technologies, were a disappointment for LIC.

Trial results mean LIC does not recommend farmers use frozen sexed semen.

Sexing Technologies is currently the only supplier of sexed semen in New Zealand, with its latest multi-head technology allowing it to sort semen faster, and at up to 4 million cells per straw.

Improvements within the technology of sexing semen have been well documented, and there was a good deal of anticipation and excitement about what the trial results would show.

LIC had hoped to see the technological improvements reflected in better non return rates (NRR) for dairy farmers.

The trial detail

The blind trial, conducted last spring, consisted of nearly 100 farmers and more than 12,000 straws of 'control' and 'sexed straws'.

The results clearly showed that there was still a substantial difference between frozen sexed and conventional frozen semen: The frozen sexed semen was, on average, 13.3% down on NRR compared to standard conventional frozen straws.

With getting cows in calf being one of the most important parts of any dairy farmer's seasonal focus, the reproductive implications of a reduction in NRR by 13.3% is significant: These cows would remain in the dry paddock for at least three further weeks.

In LIC's view, the reduction in the reproductive performance among the herd would be too great for most farmers contemplating using frozen sexed semen.

What's the advantage of sexed semen?

For many years, dairy farmers have been excited about the possibility of using sexed semen to drive genetic gain within their herd.

This makes sense, because it enables farmers to get more heifer calves from their top performing animals.

Meanwhile, farmers are free to generate more non-replacement animals from their poorer performing animals, with potential to tap into the beef market.

The above factors were key drivers behind LIC's desire to participate in the trial with Sexing Technologies.

Where to from here?

LIC continues to explore options as technology and the wider industry evolves. The cooperative acknowledges sexed semen could play an important role as a breeding solution.

LIC maintains its commitment in the area of sexed semen through its liquid sexed semen option.

Fresh is best

Combining sexed semen with liquid semen technology, LIC achieves consistent results (between 1 percent and 5 percent behind that of LIC's conventional liquid Premier Sires products).

Liquid sexed semen is available between 10 October and 15 November 2018.

Potential sexed teams are displayed on page 20; contact your Farm Solutions Manager for more information.





www.lic.co.nz