NEW ZEALAND SHEEPBREEDERS ASSOCIATION ™

Sheep NewZ

#31 Winter 2023

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Hello Members,

Still very wet here in the Wairarapa with a frost this morning. Very disappointing not to have some individual Poll Dorset studs featuring in this NewZ. Just some generic information and a couple of photos from Ian McCall. Thanks again for your photos, Ian.
Thanks also to Kevin Mawson for his photos too. Photos do look good online. Professor Jon Hickford of Lincoln University is also a regular contributor – a very thought-provoking article this time.

Our Ryeland Breed conference went well with a tour in the Wairarapa and almost all breeders able to attend. I will put the photos and write up in the next newsletter as I ran out of room this time. It would be good to have a few more breeders though – how about setting your children or grandchildren up with a flock? This breed is very rare throughout the world.

Personally, I have had a busy few months with a trip to Kaitaia for our Red Poll AGM & Herd Tour then going down to Timaru to the 102nd Women's Institute National Conference, which was great fun. The Caroline Bay Hall at Timaru is beautiful although the very well sprung floor was disconcerting when we danced! Warwick & I have just returned from Hamilton where we attended the NZ Clydesdale Horse Society AGM & Field Day.
Being involved with various breeds one makes many lifelong friends and sees the country.

Helen McKenzie
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Front cover photo
Poll Dorset lambs from Ken & Rebecca Hayward's, Puketotara Stud.

ASSOCIATION NEWS & VIEWS

From The President

Greetings to all members, to the Winter edition of Sheep NewZ. As I write this report for Sheep NewZ, it is a balmy 19 degrees. The climate since my last report has certainly been very kind to us in this part of New Zealand. Grass growth has been phenomenal. It certainly makes life easier when there is so much grass to bank on.

The lamb market appears to be on the improve – probably due to a combination of plenty of grass and lack of numbers coming forward. Scanning is now underway with general reports of higher percentages and ewes in very good condition, slightly tempered by reports of higher drys than normal.

All we need now is for wool to start an upward trend. With social media starting to get behind wool and promoting it as a viable (the only one!) alternative to anything plastic. It is outstanding some of the products that are being manufactured out of wool, and the main contribution that wool has over its competitors is that it is fully biodegradable. The only concern that I have is that most of these woollen products are too expensive – especially as we aim them at those who can at least afford them - something to keep in mind.

Dorset Horns and Poll Dorsets are our feature breeds in this Sheep NewZ. Since their introduction to New Zealand the Poll Dorset has flourished as one of the popular terminal sires country wide. The Poll Dorset's added advantage is that they negate any black fibre problems in the wool clip. You only need to go to any of the top shows in Australia to see their popularity, numerically it's Poll Dorsets that generally out number all the other terminal breeds.

My term as President of this great organisation expires at this year's AGM in July. I would like to thank all those who have supported me through my term as President, especially the office staff, Greg, Anne, and Lyndsay, for their outstanding contribution. The last three years were very difficult to actually achieve anything owing to the worldwide pandemic of Covid enveloping us. However, the light seems to be getting brighter at the end of the tunnel as we get back to some kind of normality.

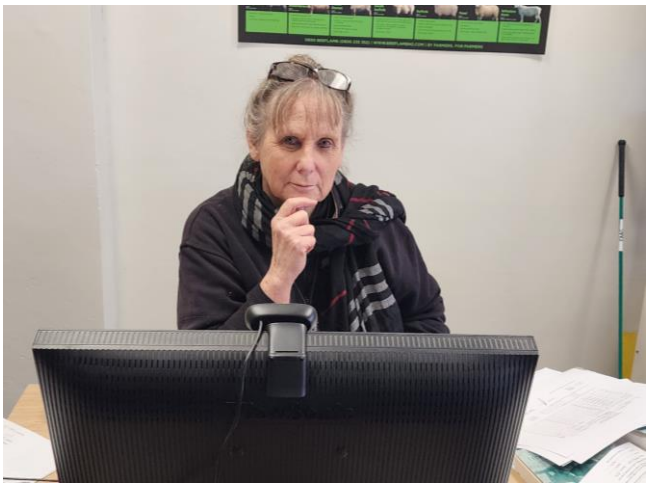
In closing I wish all members a smooth winter – especially a dry one in those sodden parts of the country, and a successful lambing.

Tom Burrows
President NZSBA

From The General Manager

Breed Conferences – Conferences/meetings I have attended this year include Dorset Down, Texel, Ryeland, Suffolk, South Suffolk, Romney, Poll Dorset, Corriedale so far. Some of these I have had to zoom due to travel disruptions etc. Breed Conferences continue to be most enjoyable and educational and more young people should attempt to attend.

It is with regret that I inform you that our long-serving Office Administrator, Anne Stewart, is retiring after 34 years. **A BIG THANK YOU TO ANNE** for her many hours of work on the Association's behalf.



Consequently, we are advertising Anne's position so if any of you fancy her job, please get in touch with me at the NZSBA Office for the criteria.

The **Ryeland conference** I attended up at Carterton was Helen's (our Sheep NewZ editor) last meeting as chairperson after having been in the chair for 29 years which is some achievement. The Ryelands have benefited from her passion and organising get togethers keeping breeders interested and the breed together.

Sheep for sale – Please utilise this site on www.nzsheep.co.nz **-** you can now go to our website and sell sheep online. Once on our site, go to sheep sales, then create add. Very simple directions.
Jobs/Grazing – also all online now

Annual Returns – Your Annual Returns should be in the office by 31st May. If you can't find yours, please contact the office. Annual Returns can be done online, but your return is still being emailed to you.

Schools and stud sheep – A number of breeds have approached high schools to encourage them to breed sheep with the breed representatives help. Waimate High School has had a Corriedale stud since 2019, but unfortunately due to a change in direction has now withdrawn.

On a positive note, Mount Albert Grammar School have approached the office to commence an East Friesian stud. They used to run a Border Leicester stud from 1960 to 2001.

Lady Isaac Scholarship/NZ Sheepbreeders' New Zealand Young Judges Championship – Last year's winner was Jeremy Henderson who works on Robin & Pip Wilsons farm in Canterbury.
The NZSBA gives the winner $1000.00 for him to use to travel to Australia.

Breed Committee Districts – At this recent round of breed meetings the various Breed Committees are re-evaluating the number of representatives they have on their breed committees.

Scanners' Eye Muscle Workshop – Great news, BeefandLamb Genetics have finally contacted me and will partially fund an eye muscle workshop for all scanners in New Zealand at Lincoln this year.
We are currently sourcing all the contact details of the scanners.

Youth Initiative – At the recent Texel Breed Committee meeting they added a rider, that to increase the age to 30 years for new breeders, now subject to the NZSBA Council agreeing.
The NZSBA Council will review their stance also.

Commemorative Jerseys - for sale –
Cost of Jerseys – Men's - $170.00 – Ladies - $135.00 and these can be posted anywhere in New Zealand. Check out our website for more details.

Tag Discounts - Shearwell, Allflex, Datamars (includes Zee Tags and Tru-Test) - Now offering discounted tags to members. When ordering please state you are a member of NZSBA, and they will send the product to you, but will send your invoice to our office, and we will then invoice you.

To our sponsors and to Helen thank you for your continued support.

Greg Burgess
General Manager,
NZSBA

Feature Breed

Poll Dorset

Brief History by Ian McCall

To start the story of the success of the Poll Dorset's in New Zealand we need to go back to Australia 1937, when a stud Corriedale ewe was accidently mated to a stud Dorset Horn the result was a poll ewe lamb, which was later mated to a Dorset Horn and that gave a Poll ram lamb. A long, difficult, and expensive programme was undertaken to breed a flock of Poll Dorset sheep with all the outstanding attributes of the Dorset, with a purity of 96.875%, some even went as far as 98.4%.

If we were doing this now, we would be able to use DNA to identify double and single copy carriers, but they had to identify them with progeny tests. In 1954 the Poll Dorset breed was official established in Australia.

Jump forward now to 1959, when New Zealand Dorset breeders took advantage of the work done in Australia and started to introduce Poll genetic into their Dorset flocks. *[Note that two of the three original NZ flocks used Ryelands to poll their Dorset Horns. Ed.]* There were 4 Poll Dorset flocks registered with the NZ Sheep breeders' Association in 1959; two of them are still in the current flock book.

This started the slow demise of the Horned flocks In New Zealand and the rapid increase of the Poll Dorset flock. Over the next 16 or so years new and existing breeders crossed the Tasman, and quite a substantial number of ewes and rams were imported. The number of flocks increased quite substantially through the seventies as the number of excess poll ewes became available.

The rapid increase in numbers was also driven by our lamb markets starting to demand leaner lamb. Poll Dorset's fulfilled that requirement very well, but market signals continued to point to less and less fat. The best science at the time told us that longer taller sheep were leaner, so with this in mind and an eye on carcass quality the Poll Dorset became the largest flock of ewes registered in the NZSB Assn. Now with the technology we have available, SIL, ultrasound scanning, CT, DNA, ECT, we can make more informed decisions and increase muscle in the more expensive cuts and decrease or maintain fat as desired.

With the import of new breeds of sheep in the late eighties, came the development and improvement of AI technology to the sheep industry. Since the mid-nineties there has been semen imported from Australia, from fifty-five Poll Dorset sires. Australia is a huge genetic pool which we can use to our advantage.

With good old-fashioned eye and hand assessment, technology, and science to help, the future is exciting for a young breeder.

Windermere stud's Champion Ram Hogget at Canterbury show 2022 **Photo:** Ian McCall

Description

Bodyweight
Rams: • 80 – 120 kgs • reach puberty at an early age • Pheromone effect **Ewes:** • 65 – 75 kgs • exceptional mothering and milking ability • 130 – 180 percent lambing
Meat
Its high growth rates, superior muscling and leanness make the **Poll Dorset** an ideal choice for today's market requirements. Additionally, the meat is succulent and tender.
Breeding/Lambing
Provides high lambing percentages, exceptional mothering and milking ability and an aptitude to breed over an extended breeding season, producing out of season lambs and 3 lambings in 2 years.
Numbers
Approx. 10,000 stud ewes [2017] plus commercials.
Wool
The biggest attribute of Poll Dorset wool is it is free of black fibres. Poll Dorsets also produce higher wool weights than any other terminal sire breed. The wool is of medium micron, with high wool bulk. This allows **Poll Dorset** wool to command a premium over other meat breed sires.

A Bit of History

DORSET HORN SHEEP

FURTHER IMPORTATIONS

National Library, *Papers Past*. Waikato Times, 19 February 1938

Mr B B Bennell, of Manakau, who recently imported from South Australia a number of pedigree Dorset Horn sheep, has been successful in securing through the New Zealand Loan and Mercantile Company, Limited, a further outstanding shearling pedigree ram bred by Mr R R Hart, of Two Wells, South Australia.

A typical, blocky, well-fleshed South Australian Dorset Horn ram, this animal will be a valuable addition to Mr Bennell's Stud. Not wholly unknown to this Dominion, Dorset Horns are rapidly gaining popularity as is indicated by the recent formation of a Dorset Horn Sheep Breeders' Association with headquarters in Wanganui. A large demand for this type of sheep is predicted within a few years.

Right time to acknowledge an early arrival

By Nick Grant, first published in the *Wairarapa Times-Age* (times-age.co.nz) Reprinted with permission.

Late last month there was something of a red-letter day in New Zealand history that somehow seemed to go unremarked as well as unmarked in any meaningful way – a truly egregious oversight there's an obligation to remedy.

It was the 250th anniversary of sheep arriving on these fair shores – a ewe and ram having been released by Captain James Cook in Queen Charlotte Sound on May 20, 1773.

It was an inauspicious introduction of the woolly ruminant mammals – the pair only survived a few days before apparently succumbing to indigenous plants that proved to be poisonous to them.

Undeterred by what some might have taken as a broad hint that this new land would be unsympathetic to these woolly immigrants, further – much more successful – attempts to establish sheep here were made over the next few years, including by missionary Samuel Marsden, who introduced them to the Bay of Islands and farmed them in Mana Island close to Wellington for the purpose of feeding whalers. (These efforts were obviously the country's first forays in the now understandably controversial international live sheep trade, although it involved importing them here, rather than exporting them elsewhere.)

These days the advent of these animals in Aotearoa is most likely to be dimly viewed via the hindsight of the significant environmental changes (including degradation) that their arrival heralded, but it's impossible to imagine any aspect of our nation today – positive as well as negative – that the introduction of sheep isn't ultimately integral to.

Aotearoa New Zealand was literally and figuratively built off the sheep's back.

Although the white gold rush of dairying may have muddied our collective memory of the fact in recent decades, between 1856 and 1987 sheep farming was the undisputed key to the country's economic prosperity.

During the late 19th century, wool was our major agricultural export commodity, and in the late 1960s still accounted for more than a third of all export revenues.

Meanwhile, the exportation of sheep meat helped drive the development of refrigeration technology, which has obviously been essential for the development of New Zealand as a whole (economically, socially, and culturally – because, yes, contrary to modish opinion, these are all inextricably interrelated).

The tide has been going out for a while now as far as the centrality of sheep to our national identity goes – no longer is the ratio of humans to sheep the one fact about our nation that is inevitably trotted out on offshore gameshows (although the current estimated count of just under five sheep per person is still impressive, it's a far cry from the peak of 22 per person in 1982 – and, in fact, represents the ratio's lowest ebb in 170 years).

The desire to be seen to be 'doing our part' to combat climate change looks set to further reduce that ratio, given calls to downsize our national flock due to the greenhouse gas emissions the bleating wee buggers produce.

But that's surely woolly thinking, given it will effectively make zero difference on a global scale, while our lamb meat is among the most carbon efficient in the world and wool offers a sustainable alternative to many synthetic and plastic products produced by petrochemical companies.

Time for a comeBAAck …?

NZ Sheep Numbers Fall

In the 2022 five-yearly Agricultural Production Census the ratio of sheep to people dropped below 5:1 for the first time since the 1850's when national sheep numbers were first recorded.

The cartoon below by Shaun Yoe is reprinted with permission from the Otago Daily Times.

SUFFOLK NZ on tour by Simone Budge, Taronga Stud - Lawrence, Otago

Simone ➢

After three false starts with various attempts at domestic tours since Covid hit our shores, members of the SUFFOLK NZ breed group were like hens let out of the hen house when they gathered in Oamaru to tour south Canterbury/north Otago studs and sights in mid-May.

We began with a noisy morning tea catch-up in Pleasant Point before heading to **Stern Angus in Totara Valley** and enjoying a great session with stud principal James Fraser and his long-standing manager Doug talking about their operation, ideas and views on the future of Angus in NZ and viewing their excellent animals in the paddocks.

➢ Suffolk tour members enjoying a break in the heavy drizzle at Stern Angus, Totara Valley.

Heavy drizzle and rain were a feature of the visit but didn't impede members asking probing questions and receiving excellent answers from the Stern team; one in particular, Stew Morton from Kimbolton, was keen to get answers to ALL his questions.

➢ Stud Principal James Stewart patiently answering yet another of Stew Morton's questions while Normand Marg Carr, Dave and Sarah Wylie, Charles Miller-Brown and Stern's manager Donald Hay are shown in backround.

Next to withstand the onslaught of our enthusiastic crew was our own Chris and Annabelle Hampton of **Waterton Stud at Cave**.

They displayed their diverse range of studs: Charollais, Suffolks, South Suffolks and new breed, Kerry Hills which was deemed to be the next big thing to interest those who like sheep types such as Valais Blacknose.

Guy Abbott and Ross McCall are outstanding in their field…. at Waterton Stud ➢

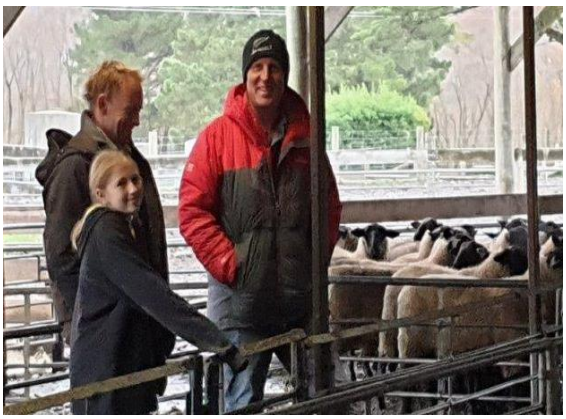
➢ Elizabeth Hampton's new breed interest, aside from Suffolks, is the Kerry Hills sheep. This photo from Ian McCall

The Hamptons also kindly hosted display Suffolk sheep from our two new breeders, Tyler and Megan, who were present to meet and talk with those on tour.

Brian Holmes, Jan Gardiner, Sarah Wylie and Doug Brown perform the time-honoured sheep breeders 'fence-lean and look 'at Waterton Suffolk stud. ➢

➢ Suffolk NZ's very own 'Mr Pedigree', Charles Miller-Brown and his trusty side-kick Jimmy Gardiner pretending they can understand SIL figures presented for our information by Waterton Stud.

Ross and Tracey McCall deep in discussion at Waterton Stud ➢



➢ Young Suffolk breeder Megan, her father and Ross McCall at Collie Hills Stud.

The breed is delighted to have these two enthusiastic young people on board and is creating a special youth class for them, and others, to complete at the Canterbury Show in come November.

Lunch was an education at **Cannington School**. We were amazed at the facilities at this very small, local school who feed their students lunch daily and, on this day, fed us too!

Chris Hampton and Malcolm Irvine loving their school lunch, while in the background Dave Wylie struggles to remember what a school lunch is, it's been so long since he had one. ➢

Craigmore Pheasants had us reeling at the statistics quoted by Head Gamekeeper John Brownlie, who kindly donated his time to give us all a detailed and fascinating insight into his daily, monthly and annual calendar of how to raise, keep and make money from these amazing birds.

The sheer numbers of pheasants raised, released, shot and those which escape to ride again another day by this excellent game park was staggering.

Head Gamekeeper John Brownlie addresses the tour with Doug Brown shown at right ➢

⮜ Farming Pheasants for the game market is a labour of love but a fascinating one. A cock and a hen shown up close by Gamekeeper Oli Worth / Ciaran Cullen

By this time members were looking a tad fatigued, but a stop in at **Whitestone Cheese Company in Oamaru** for a wine and cheese pairing session soon perked everybody up.

We tasted five magical cheeses and three wines to go along with them. After such a delicious session, we decided that that was just the right kind of afternoon tea and should replace the traditional kind.

Day two of the tour took us to Kurow and **Collie Hills Suffolk Stud** where we were hosted by Eric Ross and his son-in-law Wade Newlands for the stock side of the visit and Sue Ross and daughter Sally Newlands for lunch and fellowship.

⮜ Wade Newlands and Eric Ross speak to their stock at Collie Hills Stud visit on day two of the tour, whilst Malcolm Irvine and Charles Miller-Brown listen intently.

⮜ Suffolk tour members Stu Morton, Malcolm Irvine, Guy Abbott and Wade Newlands inspect rams at Collie Hills Stud, Kurow.

That afternoon the group stopped at the Riverstone complex outside Oamaru and toured **Dot's Castle**.

This was quite the memorable visit. From the detail about the build and its features imparted by excellent tour guide, Ann, to the sheer volume of rooms, tapestries, paintings, objets d'art and so many other features, the entire group walked about gob-smacked at the attention to detail, personalisation and features of the castle, its grounds, and its contents.

To be honest, when I was planning the tour, I wasn't sure all the men would be interested, but they were amongst the most enthusiastic about the visit and it sure was a big talking point that evening at our breeders' dinner and farewell back in Oamaru that night.

➢ *Members enjoying their farewell meal of the tour in Oamaru*

Our breed has recently sadly farewelled an integral member, Mr Bruce Rapley, and a minute's silence was held for him at the dinner that evening.

All 26 of those on tour had a fantastic time together and enjoyed the true social benefits of belonging to a sheep breeder's group: fun, fellowship, advice, support and laughter.

It was said on several occasions over the two days how lucky we are that we have a group who, alongside being competitive amongst ourselves as breeders, also truly enjoy each other's company and look forward to social times spent together, whether at an A&P Show or on tour. We try to get together after major events and encourage all Suffolk breeders across NZ to join us whenever you see the call go out in our newsletter. Please feel very welcome to join in, come along and be a part of what is a fun group who are keen to make the most of our times together.

Thanks to all who joined us in Oamaru and helped make it such a fun time. There's nothing like hearty laughter to replace an expensive facelift or so Denise Abbott maintains.

Lamb Well Done

Professor Jon Hickford, Lincoln University

Gordon Ramsay wouldn't like this place. It is a combined small bakery, corner dairy, café, pub, and restaurant. I would guess the people who frequent it (it has existed in various guises throughout my life), probably don't think a lot of Gordon Ramsay. We booked for 7 pm, because its popular, and the menu is large even though it can seat 30 at most. All three of us chose the 'roast of the day' - lamb.

The meals arrived and they were perfect. Faultless to a point, and I doubt that even Mr Ramsay could criticise them. The lamb had been slow roasted, was tender, tasty, and moist. It wasn't drowned in gravy, there was just enough, along with a dob of mint sauce for you to selectively apply to the meat. The potatoes were yellow, probably agria, boiled and then roasted to have those lovely caramelised 'corners'. The vegetables were plentiful, colourful, beautifully arranged and steamed to perfection. They had just enough crispness to bring out their freshness and the joy of seasonal eating. Plates were licked clean.

This is no Michelin star restaurant, the chef is the owner, and his wife and one waiter were assisting that night. It is called Donaldo's, and it serves many different needs for Carters Beach, with people 'coming out from town' too, town being Westport. It is an asset in a small community.

So why I am I waxing lyrical. Simply because the lamb was perfect, and to put that in perspective, I have been fortunate enough over my career to travel widely, eat in award winning restaurants, rub shoulders with leading chefs, and hob knob with food glitterati. I will say it again, the lamb was perfect, but in saying that I accept that that is also my bias.

This brings me to my topic. The eating quality of lamb, and specifically what makes it tender and tasty, and juicy. A 2017 survey of lamb consumers in New Zealand and the United States that was undertaken by Silver Fern Farms, suggested that New Zealand lamb is of a consistently high eating quality. The survey included 1800 consumers in New Zealand, and 1440 consumers in five states across the US. Information was recorded on perceptions of tenderness, juiciness, flavour/liking, overall satisfaction, and consumer willingness to pay. **The findings suggested that the key factors that appeared to have a significant and consistently positive impact on lamb eating quality were selecting the right cut, correctly ageing the meat, and correctly matching the cut to the cooking method**. I have bolded that bit, because that is what the Chef at Donaldo's had so aptly achieved with his roast of the day.

The survey **did not** find a significant or consistent impact on eating quality from such factors as breed, lamb gender, pasture, growth rates, fat cover and marbling (intramuscular fat: IMF), butt conformation, or locality. While a number of those individual factors had minor impacts, all were outweighed by selecting the right cut and correctly ageing the meat.

Perhaps contrastingly, international surveys and research into beef have routinely found that tenderness, juiciness, and IMF levels affect eating qualities. This has led research to become focussed on finding factors, both genetic and environmental (including cattle feeding/management) that affect beef eating quality, but less so lamb eating quality.

Regardless of the above, in recent years various farming groups, scientists and meat processors have argued that the quality of lamb might be improved with better production methods, including the belief that lamb could be improved by breeding to have better eating quality. See:- https://www.farmersweekly.co.nz/technology/alliance-shines-light-on-carcase-info/ , https://www.odt.co.nz/rural-life/rural-events/finishing-lamb-and-beef-qualify-high-quality-premiums , https://www.stuff.co.nz/business/farming/109931132/researchers-trial-grassfed-beef-for-protection-against-heart-disease https://www.stuff.co.nz/business/farming/92408926/lamb-rich-in-healthy-fats-now-on-the-menu .

The last of these news items is notable, as claims are made that lamb is 'packed with Omega-3 fats' and that 'the right combination of genetics, management and feeding could alter the fat profile of lamb and produce healthy animals and deliver a healthier product for consumers.

It is notable that it is claimed in the press item that there had been an extremely positive response from chefs, and the feedback from multiple taste panels shows the extra good fats really enhanced succulence and eating quality, when this seems to contrast the findings of the large survey. Product claims aside, it does leave the question of whether lamb quality needs to be improved and if so what aspect(s)?

IMF in Lamb

One eating/quality trait that captivates markets is marbling or the amount of IMF in meat. There appears to be an element of mystique around it, not least because of the extraordinary prices that highly marbled beef can command. Talk of US$400 beef steaks charms the consumer, the scientist, and the businessperson. Accordingly, there is an abundance of research about meat quality and IMF levels. Predominantly undertaken in beef cattle (reflecting the global meat market

share), it has been concluded that IMF is influenced by what we feed the animal and when, its sex, its maturity, and its genetics.

The literature also details how there is a strong positive relationship between subcutaneous fat (SCF) levels in livestock and IMF. In effect, more SCF is correlated with higher levels of IMF. This creates a conundrum, as SCF is not viewed favourably in many meat markets, and its deposition in carcasses is seen as a production inefficiency, given it has little material value currently (noting that this wasn't the case in New Zealand historically, and that in many places where sheep are kept by subsistence farmers, fat is a key part of maintaining adequate energy intake, especially through the winter months).

The inefficiency argument is twofold important. First, SCF deposition is a function of livestock maturity and reaching maturity takes time. All animals have a fixed maintenance feeding cost, which reflects their liveweight, such that larger animals require more feed. Slow growing sheep, or sheep that are kept until they not only reach maturity, but also lay down SCF (and thus potentially more IMF) will require more feed. They will also likely produce tougher meat. In that respect, **one of the big advantages enjoyed by NZ sheep farmers**, is having access to abundant and high-quality pasture that enables many lambs to reach a desirable slaughter weight (and one that produces carcasses/cuts that have premium value in our key export markets) at weaning (approximately 100 days of age) or shortly thereafter. Slower lamb growth and/or more time spent on farm for lambs to try to increase carcass IMF may come with an increased feed cost, and often at a time (late summer) when high quality feed is in short supply. That creates inefficiency.

Second, and just as important, is that slower growing animals that are kept for longer to try and achieve a higher IMF content, will also (by way of greater feed intake) have a greater GHG and nutrient footprint: be it rumen methane, urinary/faecal nitrous oxide, or increased nitrate leaching. That latter points are important later in the summer and autumn, as soil moisture levels may increase and increase N lability.

Sheep Breeding and Genetics

The New Zealand stud sheep industry has embraced quantitative genetics to enhance and measure the genetic gains with our sheep. This has been primarily driven by the levy-collector B+LNZ (and its precursors), subsidiary entity Sheep Improvement Limited (SIL; https://www.sil.co.nz/), and the various entities that use the SIL supported genetic engine, such as FlockLinc, NZ Sheep Breeders Association, Genetic Gains Limited, etc.

While there are many advantages of this approach, one downside is a reduction in genetic diversity and any acceptance of the idea of a 'fit for purpose breed' designed for specific markets or environments. Ironically, this is likely one of, if not the main driver of the vast breed diversity we see with sheep globally. In the terminal sire breeds, this may lead to the loss of unique characteristics or traits that might be of market value. For examples, a comparison of the Texel and Southdown breeds reveals the latter is suited to producing

early maturing carcass with good IMF at around 15 to 19kg of carcass weight, with this suggesting the Southdown is an early maturing sheep. In contrast, the Texel is far more suited to producing a heavier carcass before good levels of IMF can be found. While there is within-breed variation, in general this example holds true. If both breeds embraced the same breeding universal breeding index, then over time, one would expect then to breed a very similar type of lamb. This is likely already the case, as on any given day in an abattoir, it would be impossible to now pick the breed of any given carcass based solely on carcass measurement or value assessment.

Our Research

In research that we have been undertaking for a few years now, we have worked with stud sheep breeders to ascertain whether breed and thus genetics could affect key lamb carcass traits, including IMF levels. A lot of our research has focused on genes that might affect eating traits, with a recent focus placed on the role of the Fatty Acid Binding Protein 4 (FABP4). In beef cattle, there is a body of literature describing how FABP4 affects IMF, but in sheep less is understood.

In understanding what FABP4 does, a key piece of science was undertaken by our group over 2010 -2012. We revealed a pronounced effect of the FABP4 gene on SCF levels. Specifically, we studied Coopworth sheep that had been bred by AgResearch over many generations to be either lean or fat. In this study, the two lines had remarkably different SCF levels and the genetic difference in FABP4 between the two lines was pronounced, with one FABP4 gene allele (*A1*) with the highest frequency (51 %) ONLY observed in the fat line and allele *C2* with the highest frequency (59 %) only observed in the lean line. This strongly suggested that variation in FABP4 might underpin some of the difference between the two lines. We noted at that time that considerably more research was needed on out-bred sheep populations to support this contention, as firstly other genes may also affect the fat trait, and secondly the difference observed in FABP4 gene sequence variant frequencies may simply reflect a founder effect or some other bottle neck in the selection of these lines of disparate Coopworth sheep.

Recent Findings

In more recent work we have investigated 599 slaughter lambs (yes it was meant to be 600!) with 149 different phenotypes or carcass descriptors being recorded. Key among these was multiple measures of carcass size and quality, and then detail on meat quality traits including extensive detail on fatty acid levels. Over 70 individual fatty acids being measured. These data facilitate a platform for a vast array of meat quality analyses to be performed, and in that respect, the research is ongoing.

To date, some interesting, if not exciting results have been revealed. A selection of these is presented below:

Breed comparisons

Comparison of the different breeds studied revealed little difference between them. There was as much variation within breed as between breeds, with no notable differences in meat (backstrap – longissimus dorsi) short chain fatty acid content, omega 3 content, polyunsaturated fat levels and total saturated fat levels (all measured as a % of total fat) of their IMF. Given the immense body of literature attesting to the health and other benefits of omega 3 and polyunsaturated fat, and the negative effects of saturated fat, it was apparent that despite one line having almost double the SCF (measured as VIAScan GR), there was little difference in other key fat traits. Across all the breeds short-chain fatty levels were low. A comparison of the omega 3 levels on the prima-facie case suggested that the Texel lambs had higher omega 3 levels than the Perendale lambs, but no more so than the variation in levels seen with the four groups of New Zealand Romney lambs.

Overall, once the effect of sire group and age were accommodated the breeds appeared little different, albeit further analyses are underway. One might therefore conclude that the development of any argument around the unique IMF fatty acid attributes of lambs from different breeds, assuming the lambs studied are representative of the breed (a large assumption), might be a weak argument. In short and once again, there was as much variation within breeds as between.

FABP4 analyses

In total 572 of the lambs were genotyped for the FABP4 gene variation. In the lambs that were typed, allele *B* was the most common and alleles *D* and *E* were rare. This is a similar result to what was observed in the lean and fat Coopworth sheep selection lines and given the breeds are not that closely related (i.e., they are separated by 50+ years of breeding) it is interesting that similar allele frequency patterns are observed. An initial screen of the presence or absence of the alleles against selected traits, suggested that the presence of allele *B* was associated with reduced IMF. The effect seems to be reasonably large (and its size is consistent with what we have observed in cattle using ultrasound scanning to detect IMF).

Where this result is most interesting is that with the Coopworth research, allele *B* was found to be associated with

the high fat line of sheep, whereas here it appears to be associated with reduced IMF. This then begs the question of whether selecting against *B* might increase IMF and reduce SCF, a question that will need a lot more work to answer. It could be valuable though as it might one day allow us to select low SCF lambs, but that have higher IMF, and therefore hopefully tastier and juicier meat. We still have a lot of work to do.

While the close to 10% difference in IMF levels we can predict may appear to be large, one must not forget that this is a proportion of a small overall IMF level, although heritability estimates in sheep (up to 0.48) do suggest the trait would be reasonable easy to selectively breed for (accepting that currently to measure it accurately, requires a lamb to be slaughtered). One should also note the work of Anderson et al. 2015, suggesting that as lean meat yield increases (and the use of VIAScan technology is enabling that), the IMF of the meat may decrease.

Donaldo's is for sale if you have some spare cash (see https://www.tourismproperties.co.nz/for-sale/cafes/donaldos-cafe-beach-bar-carters-beach-westport-for-sale/), but if you want me back as a customer, you had better know how to cook lamb!

Texel NZ Conference 2023

By Gary Latta

This conference was held in Christchurch in early May. It was attended by registered Texel breeders from across the country.

The first day was spent at Lincoln University. In the morning Bill Austin, a registered beef structural assessor, guided breeders through a session on structural assessment. Using the Canterbury Texel Club Ewe Hogget Performance class animals. These animals were appraised from the front, side and rear views, looking at feet, heel height, leg placement and angle, shoulder set and pelvic shape. Breeders were able to discuss how certain conformational faults can be identified, and the effect that these faults have on the animal's production and functionality. For many traits there is a 'happy medium' where extremes in either direction can be associated with undesirable consequences.

Breeders were able to take the opportunity to analyse and discuss the CT scanning information that had been gathered from the Canterbury Texel Club Ewe Hogget Performance class animals, with the help of Rebecca McCracken and Denise Coppens Muller. A considerable amount of data can be extracted from CT scanning a group of animals which have been grazing together in the same environment for three months. This will include the carcass weight, the amount of fat, lean (muscle) and bone and its distribution within the carcass. You can identify the percentage of muscle in the hindquarter, loin, and shoulder, plus get a ratio of muscle: liveweight, muscle: fat and muscle: bone.

Re-ranking animals based on their calculated dressing-out percentage and extrapolated carcass retail value, showed that there is more than one way to analyse CT data. What may be analysed or extracted from the CT data is dependent on the breeding objectives of the breeder.

The afternoon was split into three sessions. The first was a talk by Dr Andy Greer about parasite management. Andy's emphasis was on the strategic management of sheep to minimise the effect of parasites on performance in a world where drenches are failing. Topics covered included refugia, targeted sheep treatment, and breeding for resilience and resistance.

Dr David Scobie then discussed short tails and bare bums. He predicted that the day would come when farmers will no longer be able to dock sheep. Texel sheep can lead the way with their typically short tails and bare breeches.

Ag Amauri Ltd, Mayfair, Texel ewe hogget's
Photo: Ian McCall

Professor Jon Hickford discussed intramuscular fat and lamb eating quality, stressing that NZ lamb already 'eats well '. He reported results from a large MPI funded programme which showed there is little difference between breeds and that lamb was already a good source of desirable omega-3 and polyunsaturated fatty acids.

The breeders then moved to the Gene Marker Laboratory where the success of registered Texel breeders in eradicating the recessive and fatal eye disease microphthalmia was celebrated. This was achieved with the support of Prof Jon Hickford, Dr Huitong Zhou, and Freeman Fang.

A successful day concluded with the Texel Dinner that evening. The inaugural Keith Berry Memorial Ambassadors' Award was presented to Clare Callow by Ruth Berry. Clare has been the Texel Across Flock manager for numerous years and a tireless supporter of the Texel breed.

After a wet start the second day cleared into a fine day with a cold breeze and snow on the tops as we headed to North Canterbury. We visited a new shearing museum in Waikari, three Texel studs and a vineyard for some wine tasting.

The studs visited were 'Mayfair' of Kate and Quinton Boyd at Hawarden, where the sheep looked great, very consistent in phenotype. It was good to see large mobs of ram hoggets at the 'Hemingford' stud of Viki and Sam Holland at Culverden, definitely some selection pressure there! Finally, we visited the 'Murray Downs' stud of Sarah Rodie just out of Amberley, one of the original studs established when Texels were first released in 1991.

At all three places the sheep were a credit to the breeders, and I would like to thank them for the time and effort they took to present their sheep and feed us.

I hope everyone who attended went home with something to think about and some newfound knowledge to breed better Texels.

Coronation of King Charles III

As the then Prince of Wales, Charles was the initiator of the international 'Campaign for Wool' organisation in 2010. He is now the Patron (among other organisations) of Campaign for Wool.

The anointing cloth used in the Coronation of King Charles III was designed by an expatriate New Zealander, Aidan Hart. He is a renowned iconographer who has lived in the UK for 30 years. The cloth is made from Australian and New Zealand wool.

The central design is in the form of a tree which includes 56 leaves representing the member countries of the Commonwealth.

WOOL – AND HOW IT GROWS

A revised series of article on aspects of wool biology. *(First published in Black & Coloured Sheepbreeders' magazine Issue #17, November 1980)* By Roland Sumner, AgResearch, Whatawhata Research Centre. Reprinted with permission of BCSBA & Roland Sumner.

Part 8

All wool is not the same. Fleeces vary in their length, coarseness of fibre diameter, degree of fibre entanglement, presence of vegetable matter, softness, lustre, amount of grease they contain and not least their colour. Each of these characteristics affects the suitability of the wool for different end uses. Uses were soft handle is important require a soft handling fine wool, uses where insulation is important require a bulky springy wool and uses where wearability is important require a coarse wool. Consequently, the breeding and selection of wools for handcraft use should be considered with the end-use rather than the producer in mind.

The handcraft industry is one of the few industries where there is often direct contact between grower and user, so that the grower has the chance of gauging exactly what the user wants. Often the grower and the user are the same person.

Wool types and potential end-uses.

There are a diverse range of breeds of sheep in New Zealand which can be grouped into five broad wool types:

- Merino type – Merino
  Fine wool, staple less than than 100mm in length, 15 – 24 microns. Soft bright wool suitable for fine knitting, crochet and weaving.

- Halfbred types – Corriedale, NZ Halfbred,
  Medium to fine wool, Staple 75-125mm in length, 25 – 33 microns. soft, bright wool suitable for medium to fine knitting, crochet, weaving and felting.

- Crossbred/Strongwool types – e.g. Perendale, Romney, Coopworth, Border Leicester, English Leicester, Lincoln
  Staple - 150-200mm in length, 33 – 41microns
  Suitable for medium weight knitwear, blankets, wall hangings, carpets, and felting.

- Down types – e.g. Cheviot, Poll Dorset, Ryeland, Hampshire, Suffolk, Southdown. Medium wool, less than 100mm. 23 – 33 microns. Chalky wools with a spongy handle resulting in a bulky yarn suited to lightweight knitwear and blankets.

- Specialty carpet type - eg Drysdale, Tukidale. Coarse wool, staple length150 – 200mm
  Harsh handling, hairy wool, lacking lustre. Suitable for rugs and carpets. *[Editor's note: this article was written in the 1980's. There are now no known flocks of Tukidale and only 1 or 2 Drysdale flocks left in NZ*]

Desirable characteristics for handcraft wools

The main requirements are:

- A mean fibre diameter suited to the planned end use of the yarn
- An adequate staple length that will withstand the stress of preparation without undue fibre breakage.
- A free-opening fleece with minimum fibre entanglement (cotting).
- Lack of unscourable colouration.
- Freedom from vegetable matter (seeds and burs).
- Freedom from harsh, hairy fibres unless desired for a particular end use or special effect.

Fibre diameter

Fine wooled sheep within a breed tend to have light fleece weights. Intensive selection for fleece weight. As is recommended on economic grounds for commercial flocks, will tend to select against the finest woolled sheep in the flock. For breeders who supply wool to craftspeople, a variation in fibre diameter between sheep can be an advantage in supplying a range of wools for different uses.

Staple length and soundness

Staple length can be regulated by the frequency of shearing. Normally, with good management, sheep growing fleeces for spinning should be shorn once yearly. If fleeces are allowed to grow for longer than a year, the risk of tensile weakness (tenderness or unsoundness) is increased.

As discussed in an earlier article in the is series, wool grown during winter months is finer than wool grown during summer. This change in the pattern of wool growth is due more to the length of daylight rather than poorer feeding during winter. If the animal is stressed with lambing difficulties or severe footrot, for example, the mean fibre diameter may be further reduced, weakening the staple at that point. The strength of yarn hand spun from tender wool is unlikely to be affected unless there is a high proportion of short fibres. Of greater importance to a spinner is the considerable wastage of short fibres that can result when

either combing or flick carding tender wools. The short fibres, or noils, removed with combing or flick carding have few uses and are generally thrown away. Thus, it is important that wools grown for spinning are sound.

If possible, it is good management to shear sheep growing fleeces for handcraft use either at the start of winter or as soon as practicable after winter (pre-lambing), so that the region of possible weakness is either near the tip or near the base (butt) of the staple. As this fault cannot be cured once it occurs, prevention by adequate feeding during the winter is the best policy.

Cotting

Cotting or fibre entanglement results when some of the fine fibres formed, either during the winter or after a period of stress, break while the fleece is still on the sheep, and then felt with the adjoining fibres that are still growing. Where there end use requires the wool to be used directly from the fleece, or after carding, the fleeces should be free opening with no trace of cotting. Generally, early shorn (spring and early summer) wools are less prone to cotting than wools shorn in mid- and late summer. As with unsoundness, adequate winter feeding is the best way to minimise the chances of this fault occurring. It is this unique cotting attribute of wool which is regulated and controlled in felt making. Lustrous wools tend to felt more readily than dull wools.

Colour

Natural changes due to pigmentation are unscourable and can range from black, through brown to a light grey. Pigmentation is inherited in a simple way without affecting the spinning quality of the fleece. Most craftspeople working with pigmented wools require a range of colours to incorporate into their work, encouraging a diversity in patterning within breeders' flocks.

The combination of high humidity and high temperature results in the formation of a pronounced yellow discolouration within a growing fleece or during storage. This discolouration commonly called canary stain, is unscourable, imparting a dirty appearance to the wool and can seriously limit the range of colours to which a fleece can be dyed. Yellow staining is generally of little consequence in darker coloured wools.

Vegetable matter

With normal grazing management, sheep commonly pick up seeds and burrs in their fleeces. Back wool may be severely affected following hay feeding. Barberry, boxthorn, rimu leaves and kahikatea can also cause serious contamination. While limited contamination after hay feeding may be able to be shaken out at shearing, serious contamination is undesirable in wools for handcraft use.

Hairy wool

The importance of harsh handling hairy wool is entirely dependent on its end use. This characteristic is undesirable in apparel wear but is very desirable in carpet yarns.

Fleece oddments

Oddments are generally not considered suitable for craft use without a considerable amount of preparation. Both the belly and pieces tend to be slightly webby even on free (open) fleeces. Oddments also tend to be more discoloured and to contain more grease than body wool. The belly, skirtings (trimmings from the edges of the fleece) and often the neck should be removed from all fleeces before sale to a craftsperson.

Oddments should be sorted according to normal woold trade practice when they can be sold to either a wool broker or private buyer. In the case of white wool this means keeping, bellies, pieces and necks separate as well as taking out the urine stain from ram and wether bellies and keeping dags from crutchings. Second shear and full wool oddments should not be mixed. Pigmented and white wools must never be

mixed. Oddments from pigmented sheep can be mixed as the wool trade does not recognise separate types of black oddments.

Conclusion

The main aim in breeding wool for craft use is that it should be long stapled, free of tenderness (sound), free opening, of good colour and free of vegetable contamination. These aims can be best met with early, preferable pre- lamb shearing, enabling the wool to be easily prepared for use, and with minimal wastage. Special effects can be introduced at the discrimination of the craftsperson.

From the Beef+LambNZ website

Shearing may increase feed demand by 10-30% for two to four weeks, depending on temperature, wind and rain, as the ewes need extra energy to maintain body heat.

Shearing also places freshly shorn sheep at risk in bad weather. This risk is greater for sheep with a body condition score of below 3.

Cover combs will reduce the period of increased feed demand by one or two weeks.

Sheep should not be shorn in the last four weeks of pregnancy.

Breeding sheep that have a high degree of resistance to worm challenges

Paper presented to the Romney conference in early May this year by Mr Gordon Levet.

After 34 years of intensive selection working with top scientists, we now have a stud of Romney sheep where the vast majority are totally resistant to the highest challenges of all worm species, including the deadly Haemonchus, often referred to as the Barbers Pole Worm.

First let me introduce myself. My name is Gordon Levet, a third-generation sheep and beef farmer, farming in New Zealand, 80 kilometres north of Auckland city. My father established a Romney stud in 1922. At that time the Romney Marsh breed was the dominant breed – about 80% - of the 30 million sheep in New Zealand. They are a dual-purpose breed, both for meat and wool, that was developed in the English Romney Marshes. Because of my father's ill health, I assumed management of stud and farm in 1951 at the age of 18, so obtaining a degree in agriculture was not an option.
Had I been a scientist, I would have presented scientific papers to be published where they could be read and analysed. As this was not possible, I will detail the programme which was followed to achieve this very satisfying result.

Although not a scientist, I was always interested in scientific developments in all fields. A keen observer of animal-behaviour, I often did my own trial work. On field days, I would invite scientists to speak on various subjects.

My first real engagement with scientists was when I had a ewe that had four sets of triplets in succession, which was very rare. In 1972 this ewe was taken to an agricultural research establishment for an embryotic transfer to hopefully gain more lambs with her genetics. No farmer had ever used this technique commercially in New Zealand before.

The environment is always an important factor in animal breeding, especially where diseases, external and internal parasites, are dominant. The damp, humid sub-tropical conditions that prevail in my region are the worst conditions to farm sheep in New Zealand, as they provide the ideal environment for all manner of diseases and parasites that affect sheep health. These same conditions are also favourable for many fungi and other micro-organisms, some beneficial for soil; others that produce toxins in and on grass, thus grazing animals can ingest a cocktail that will affect stock health or even kill healthy animals. The effect on the immune system could be considerable.

The worst disease in my region is pneumonia which affects 94-96% of lambs, six weeks to two months after weaning. Virtually all lambs lose weight rapidly with a death rate between 4-10% with a further number that do not fully recover. This disease is much less severe in cooler regional of New Zealand where it is only a slight issue in some years.

Breeding for worm resistance is all about breeding for a strengthened immune system which reacts earlier and more aggressively to disease and worm challenges.
Until recently, I had not realised the huge impact pneumonia and other health issues had on my efforts to breed sheep that have genetic capacity to control worm challenges. I will elaborate on this later.

Now, what led me to the decision to try to breed sheep with the worm resistant trait?
I observed that when there was a worm challenge some lambs were badly affected while others were fine. My conclusion was there had to be genetic factors involved, so progress may be possible to breed sheep that could be more resistant. Scientists in New Zealand and Australia were already doing trial work in this field.

So, I visited a leading agriculture research establishment – AgResearch at Ruakura – where I met a parasitologist, Dr Tom Watson, to discuss this subject. He was very positive about the prospect for success and gave me protocols to follow to make progress. These protocols are:

1. Drench all ram lambs about a month after weaning to ensure they all started at the same point.
2. After about 6 weeks, start monitoring the mob, by taking dung samples, to see average FEC – faecal egg count, which signifies worm numbers.
3. When the average reaches 1,500, take dung samples from all lambs to see their individual FEC.
4. Drench all lambs and carry on for a second sampling and test.

This second test would give more accuracy. Latterly the target of 1,500 has been reduced to an average FEC of 700 eggs. The worm egg count only gives a reasonable estimate of the number of adult worms present.

This does not take into account the varying number of immature worms that have not reached the egg shedding stage. Short of confining sheep and dosing them with a given number of larvae, as is the practice in Australia, FEC provides the best practical method of accessing worm levels.

Over the years about 300 to 400 ram lambs – from a flock of 700 to 800, were tested twice. Generally, 10 to 12 sires were used. Early on, ewe lambs were also assessed.

In the first year, the average FEC of the progeny of each sire was noted and I was greatly encouraged to see the genetic variation was a five-fold difference between the sons of the best and worst sires.

I started using these protocols with the ram lambs born 1986. Two years later, the genetic programme to breed sheep that had some degree of resistance to worm challenges began in earnest. I adopted two methods of mating. ***Positive*** and ***Corrective***. Positive, mating the best sires for the resistant trait to other sires' daughters with the same positive trait. Corrective, mating top sires to the daughters of the poorer performing sires. In the first ten years, progress was painfully slow, as there were only susceptible sheep with some slightly more resistant than others.

In the year 2000 there was a lucky break. A sire was selected, born in 1998. His number of 765-98. We tested 300 ram lambs born 2000 with 765-98 having 42 sons tested. When the computer rankings were generated, 22 of his sons were ranked and ranged from 1st to 22nd. Moreover, he had no sons in the bottom 60%. Five of his sons were kept and used extensively. This sire also had many daughters with many being top performers. This one sire, with his wide use, greatly accelerated progress.

Another major step forward came in 2007 when we changed course. From the usual pattern of two FEC's with a drench in between, the decision was made to not drench between samplings. I fully expected the FEC numbers to explode as it was the peak of the worm challenge. About 10% of lambs with the highest FEC's were drenched and withdrawn from the trial. The average FEC seven weeks after their first drench was 4286. The lambs were left another five weeks to week 12 from the initial drench. At this stage a further FEC was taken, where the average count was 4907, an increase of 621 or 15.5%. A much greater increase was expected. The decision was then made not to drench lambs for another four weeks to see what would happen. After the third FEC was taken, amazingly the average dropped to 1947. This was 16 weeks after the initial drench. The drop in average was 2960 or just over 60%.

This was a game changer. Having such a dramatic result without drenching for almost four months, at the height of the worm challenge, especially when Haemonchus was the dominant species was certainly a game changer. Apart from being very satisfying, it changed both my thinking and the future direction.
Normally, all lambs were drenched to begin the FEC process. This was changed with no drenching after birth or after the first FEC was taken. However, we continued to drench the small tailenders, about 10%, without including them in the main line to be faecal egg counted.

From that point – 2007 – the ram lambs in the main were never drenched apart from the odd lamb that showed obvious signs of blood loss – Haemonchus. Not drenching the lambs with Haemonchus present is very risky as this worm will kill in a matter of days. With 500 worms each removing a ml of blood per day – half a litre per day – death will soon follow. I began the practice of taking the mob for a brisk walk of three to four hundred metres, those worst affected by Haemonchus would soon run out of energy, be drenched, and removed from the mob. In most seasons less than 10% would be drenched. Over these years, I would mostly have three FEC's to monitor the situation. Normally, about 85% would have reduced FEC's during that period. About 5% remain about the same and 10% would increase, but not greatly. I was pleased with this result. Generally, the FEC's would range of 0 up to about 20,000 with nil counts only about 1% to 2%.

There was another major and surprising development in 2020 with the 2019 born ram lambs. There were 398 lambs sampled. They had never been drenched. The first sample was taken about one month after weaning in the third week of January 2020. The average FEC was about normal at 3773. There were no nil counts, the lowest being 165 and the highest

25,550. There were 21 lambs over 10,000 and 57 below 1,000.

The second sample was taken four weeks later. When the results became available, I had difficulty believing what I was seeing.

The average was just 122 with all lambs dropping and all under 1,000. There were 70 nil counts. This was a 30-fold drop. I found these figures almost unbelievable, but figures don't lie.

So, what was behind this result, certainly not genetics. The period after weaning was extremely good for all stock health, particularly with lambs. Commercial farmers commented that they had never experienced such a good season for exceptional health in their lambs. Normally, fly strike is a major problem for 7 months. The blowflies were absent, and we only experienced the odd case of flystrike. Pneumonia which normally affected 94-96% of lambs with many deaths was also not apparent.

I concluded that in previous years, the immune system had two major simultaneous challenges; pneumonia and worms; and was compromised with both. The unusual absence of pneumonia greatly helped the immune system defeat the worm challenge, and this in only four weeks. Several senior scientists have seen these results and don't disagree with my conclusions for this dramatic result.

What are the implications of my interpretation of this result? If such a devastating disease like pneumonia is not present in an environment and the immune system is only faced with a worm challenge, the result should be the same as was achieved with our 2019 born ram lambs. This also illustrates the immense power an enhanced immune system has to control all internal parasites. This was certainly a personal high in my 34 years of endeavour.

Other related matters.

In New Zealand, a national recording scheme was set up in 1967 to measure production and other traits for all sheep stud breeders. This scheme has evolved over the years and is now called Sheep Improvement Limited or SIL for short. Three years after I started to breed for worm resistance, a national programme was established in 1990 to encourage stud breeders to breed for this trait. It is named "Worm FEC". Originally about 30 breeders joined and followed the same scientifically designed protocols that I was given. Sadly, many left the scheme when they realized that the work and costs involved had no financial benefits. Over the years the membership has fluctuated around the 25 to 30 level. Those that are in the scheme are mainly those that believe in the concept regardless of the costs. These breeders have had varying degrees of success, according to their dedication and ability as stud breeders.

If any reader of this report has any doubts of its validity, they should contact one or both of our leading scientists:
Dr Jon Hickford – Jonathan.hickford@lincoln.ac.nz
Dr John McEwan – john.mcewan@agresearch.co.nz

Incidentally, over the years, I estimate I have collected about 25,000 samples and sent them to a laboratory for an FEC. Hopefully, this document will be helpful to all those that are interested. To me, it was like sailing a ship in uncharted waters, as there were no maps to follow. There were successes and failure, and some unexpected surprises. Over the years, I have worked with some wonderful scientists. The reward for me was a learning experience and sense of achieving some success.

Gordon Levet
January 2023

A LIPSTICK MADE FROM WOOL

(The information (abridged) is sourced from an article in 'the Muster of Australian Breeders of Stud Sheep, #117, May 2023)

A New Zealand based company, Wool Source, has collaborated with Kiwi lipstick brand Karen Murrell to produce what it says is a world first lipstick containing activated keratin powder from wool fibre.

Wool Source has developed technology that extracts wool keratin with minimal processing and transforms it into a fine powder. The powder can be used to take on eco-certified colour to create a natural pigment that offers wool's natural characteristics, including moisture retention and even pollution and free radical protection, protecting skin from oxidative stress.

It was developed as part of a seven-year research program to investigate new uses for wool that are good for both people and the planet.

It has been used in Karen Murrell's new Kera Kisses lipstick, a blue-based red with a dewy, hydrating finish.

The lipstick creator says she was excited to see the collaboration come through the rigorous development and testing stages so well, as she hails from a rural background in Te Awamutu and was keen to support the farming sector.

The wool used in the pigment is from Westmere Farm in Ashburton.

Special NZSBA Men's and Women's Commemorative Sheep125 Jerseys For Sale

Men's Awakino –

Heavy weight merino quarter zip – this textured boucle knit merino jersey with nylon for extra strength is just what you need in the cooler months. This garment has rugged style – wear it to the game or to the pub with your mates. A very versatile style and a firm Wild South favourite.

Women's Merino

Wild South product specifically designed for NZ Sheepbreeders, we have used our mid weight Merino fabric utilised by the NZ Defence force to create a durable, versatile merino pullover to keep the ladies warm without any compromise in style.

Both styles made in NZ

Measurements

in CM

WS213A Women's Merino	**8**	**10**	**12**	**14**	**16**	**18**
½ Chest	**42**	**44.5**	**47**	**49.5**	**52**	**54.5**
Centre Back	**63**	**64**	**65**	**66**	**67**	**68**

MM047 Men's Awakino Pullover	**M**	**L**	**XL**	**XXL**	**3XL**
½ Chest	**56**	**58.5**	**61**	**63.5**	**66**
Centre Back	**69.4**	**71.4**	**73.4**	**75.4**	**77.4**

COST

Men's Jersey - $170.00 (gst inclusive) Women's Jersey - $135.00 (gst inclusive)

Email form to NZSBA – greg@nzsheep.co.nz

Name		Email	
I require:	Men's Jersey	Size:	Number:
	Women's Jersey	Size:	Number:
	Men's Jersey	Size:	Number:
	Women's Jersey	Size:	Number:
	Men's Jersey	Size:	Number:
	Women's Jersey	Size:	Number:

Please pay NZSBA bank account: NZ Sheepbreeders' Assn 03-1702-0107771-00 stating JERSEY in Code

Thanks to Kevin Mawson for these photos from his recent trip to the UK. These were taken at the Balmoral Show in Belfast on May 12th 2023.

Champion Hampshire Down

Dutch Spotted sheep Rams can weigh from 115 to 135kgs

Blue Texel

NEW ZEALAND SHEEPBREEDERS ASSOCIATION ™

FOR SALE, ETC

Sheep Breeds posters are available at the Office.
Contact: greg@nzsheep.co.nz

Note: CLASSIFIED ADVERTISEMENTS

***FREE small advertisements are available for member breeders with surplus stud sheep for sale.* Full, ½ or ¼ page ads may have a charge. Talk to Greg!**

Remember the "Sheep NewZ" goes up on the website, available to be read by anyone with an interest in sheep!!!
Email adverts to the Editor or greg@nzsheep.co.nz

The **Closing Date** for next issue will be **August 20th for the September 2023 newsletter.**
Please get items in well before the deadline!!!

"FEATURE BREED" will be English Leicesters

If you would like to be part of this section or the newsletter, **photos and stud histories of All Breeds are accepted at any time** for next issue.

EMAIL OR POST TO THE EDITOR – see front page for address details.

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