

Deer Industry News

Breeding values proving worth in commercial settings



Challenging Conditions

MARKETERS ADAPTING AND RETHINKING STRATEGIES IN RESPONSE TO GLOBAL HEADWINDS

Blocking Ticks

EXPERTS DISCUSS BEST MEASURES FOR TICK CONTROL AS WARMING EXTENDS PEST'S RANGE

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Deer Industry News

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Cover: This Southland big boy posing with the Tākitimu Mountains as a backdrop was photographed by Sandra Stevens at Connemara Wapiti and was an entry in the 2020 MSD Animal Health photo awards.

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EDITOR Phil Stewart, Words & Pictures

LAYOUT Rory Stewart

Welfare attitudes grounded in connections

A reindeer-powered sleigh, an image of the coming festive season, reminds us that animals are important to us in many ways – not just as sources of transport, food and commerce, but as means of thought and symbolism.



Mark Fisher.

SANTA CLAUS, WHOSE origins lie with the third century Saint Nicholas is eagerly awaited by many children at Christmas. The story also reminds us of our changing beliefs.

Animal welfare is a value farmers place on their animals. Increasingly, others in the community have expectations of how those animals should be treated. These are expressed in everything from laws, regulations, codes of welfare and guidelines, to media exposés and social media posts. Not surprisingly, attitudes towards animal management vary considerably from being able to do anything to animals, to rejecting any form of exploitation, even having pets.

Between these extremes are those who believe the use of animals is acceptable, providing it is humane. This diversity in attitudes has given rise to a “battle for young minds” on welfare. Caring for animals requires skill, knowledge and experience – something many children start learning early. On the other hand, some believe that helping with painful procedures should be restricted to an older age, for fear of desensitising the young to the “cruelty” of husbandry.

The relationship between humans and animals is long and complex. Limiting exposure, and thus understanding, isn't a good way of maintaining a relationship.

Contact and experience with real animals, not just pets, may lead to better understanding and empathy. In contrast, children who have only sporadic contact with animals not surprisingly report more negative experiences. They're more sensitive to their smells and noises, and are more easily overwhelmed in their presence.

Sadly, relatively few people have meaningful experiences with real animals. There are perhaps no societies as deeply alienated or disconnected from other life forms as those shaping the modern, western, affluent relationship between humans and farm animals.

Much effort goes into “educating” farmers about the expectations society has for the treatment of their animals. However, education should not be limited to those responsible for animals, but also for the public good, so that the public's expectations are also guided by what is good for animals.

Since we all live off the land, and cannot live without having some sort of impact on animals, maybe it is time to think about a new story, one acknowledging the connection all of us have with life, be it farm animals, wildlife, forests or orchards.

Respect for animals and the environment must extend to all those who “derive value from the animals and the land in the form of goods and services. This means all of us.” So began the final chapter of John Webster's 2013 book, *Animal Husbandry Regained*. Webster is a veterinarian and one of the world's foremost animal welfare scientists. He calls for a better understanding of farmers' needs and our needs to reward their efforts.

Maybe this is really a return to an old story of husbandry, where we look after the animals and they look after us. Perhaps Santa and his reindeer will be eagerly awaited not just by good children, but by good retailers and consumers, as well as farmers. ■

– Mark Fisher, Ministry for Primary Industries

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Venison on plates in China

by Ali Spencer, *Deer Industry News* writer

New Zealand venison was included in a special “New Zealand Week” promotion in China in the first half of November.



Mountain River Venison slider at the New Zealand Week Kiwi Brunch held at the Westin Hotel in Shanghai.

THE FORTNIGHT-LONG PROMOTION is organised annually by New Zealand Trade & Enterprise (NZTE). The main programme included a series of events in Shanghai, many of them featuring premium New Zealand food and beverages, culminating in a popular Kiwi Brunch at the Westin Hotel. Restaurants throughout the city also participated, carrying New Zealand venison on their menus.

Mountain River Venison was served at three of those restaurants, its representative Hunter McGregor of Shanghai Rata reports. Up on the seventh floor of the Nissin Shipping Building, the upmarket M on the Bund restaurant served two leg cuts: venison rump in one dish and eye-of-round in a canapé. Its venison ribs were served at Commune Social and venison sliders were being passed around at the Westin’s Kiwi Brunch, before guests tried a venison shank curry.

Feedback since the promotion has been good, says McGregor.

“Most of these are full-time menu items. The ribs at the Commune Social have been selling well since June and we expect to see some cuts continue on other menus,” he says, adding that 2020 has been a tough year for his business.

“Our sales volume will be well down on 2019 (year on year), most likely by as much as 40 percent.”

While 2020 was about survival, he thinks the corner has been turned.

“There are plenty of positive signs in the market. Most restaurants that survived from July are doing very well and we are

now seeing many new restaurants open all over China. The hotel industry will take some time to return but some places, particularly Chinese tourist areas, are doing very well,” he says.

McGregor is positive about the 2021 market outlook in China, but says there will be plenty of challenges. He welcomes news that DINZ is planning more research into how venison marketers can get New Zealand venison into Chinese restaurants.

“This is great and something we are also looking to develop. If we can get a few venison items into Chinese restaurants this will be positive for the entire industry. It is a major challenge and there is no guarantee of success but we will give it a good go!”

Ahead of New Zealand Week, New Zealand venison was also included in a workshop for trade contacts held in Shanghai by Silver Fern Farms.

A total of 1,368 tonnes of primarily frozen New Zealand venison worth \$17 million was exported to China during the year ending September 2020, making it the deer sector’s third most valuable market. This represents a 94 percent increase in volume and 33 percent in value on the year to September 2019.

DINZ venison marketing manager Nick Taylor is excited for the industry to continue work in China, “in particular, exploring opportunities for venison as part of the various Chinese cuisines. Until now, we have really only focused our activities on Shanghai so there is lots of scope, both geographically and from a culinary sense, for the industry to be expanding into.”

DINZ has also prepared a range of promotional material for use by exporters in the market (see *Deer Industry News*, October/November 2020). ■



Hunter and Winnie McGregor.

Global venison market extremely challenging

by Ali Spencer, *Deer Industry News* writer

The national published venison schedule finished up at \$6.39 per kg at the end of October 2020 – 33 percent down on last year and 28 percent below the five-year average (Figure 1). It's been a challenging global market over the past couple of months and will remain so over the coming months, notes venison marketing manager Nick Taylor.

AT THE TIME of writing (mid-November), venison exporters had reported all venison plants were open and operating as normal and processors were planning to maintain deer processing capacity, says Taylor, even though it was evident conditions in Europe and North America particularly were extremely challenging. He said a planned upgrade at Alliance Lorneville will close the venison processing plant temporarily in January. During that time, processing will be shifted to the co-operative's nearby Smithfield plant.

The window for supplying the European autumn has now closed, with good volumes of animals at a good average carcass weight of 55.89kg supplied through September and October. September saw farmers heed the call to process animals earlier to meet the short chilled season window. Nearly 28,000 deer were processed in September, up from 15,000 the year before, says Taylor.

However, pressure is now on demand in Europe and the United States.

New Covid-19 lockdowns in the key European markets of Belgium, Netherlands and Germany meant foodservice – restaurants and canteens – closed again there for in-house dining in October for at least four weeks and were able to do takeaways only.

“These restrictions will have significant impact on the consumption of all quality meats,” he explains. European consumption of venison will now probably be lower through the game season and importers will enter 2021 with some stock already in freezers, in addition to larger-than-usual amounts in New Zealand freezers.

In the United States, severe pressure was bearing down by mid-November on how restaurants operate as daily infections neared 200,000 per day – a third surge in Covid-19 cases.

“Chicago has again banned indoor dining indefinitely and, with winter setting in, outdoor dining will not be an option in many states, so restaurants will be back to operating takeaway only there too,” he says.

While a US\$120 billion relief bill for restaurants had gone

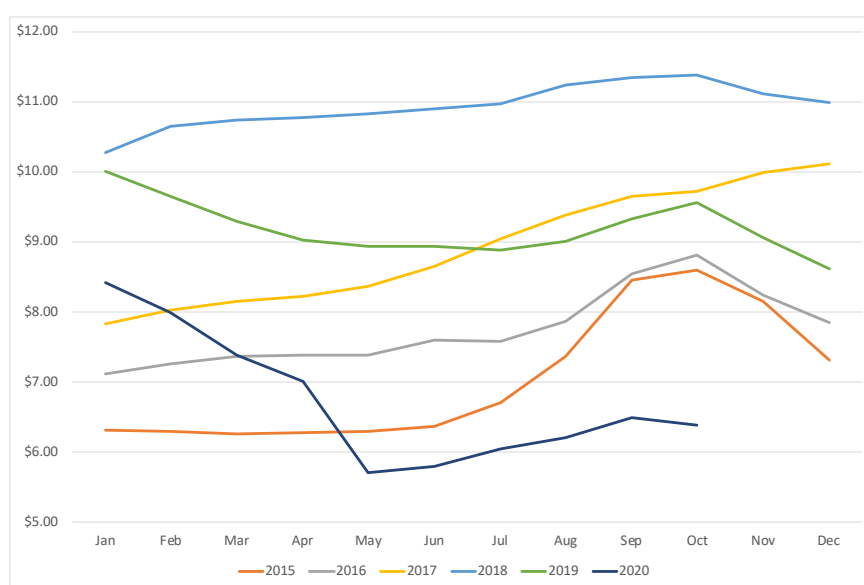


Figure 1: National published schedule 2015–2020 (monthly average).

through the US House of Representatives, it still needed to be passed in the Senate. With the recent election ushering in a new US president, the timeline for this is uncertain, says Taylor.

There were also problems for airfreight. Only about a quarter of the usual capacity is available to exporters as routes are limited and space still expensive.

As a result, exporters are rethinking their venison strategies to adapt to the challenges presented by Covid-19 (see branch chairs' meeting report on page 30). A new US retail project has been created within the P2P programme to support companies and their retail partners to undertake more promotions.

DINZ will support that activity with consumer insight work, as well as identifying key food media in locations where export companies are working and increasing the publicity around New Zealand venison, says Taylor.

“While initially during lockdowns consumers turned to comfort foods, there has been a shift to healthier options as well as new food experiences, which fits well with what our venison can offer consumers.”

DINZ will also be looking for appropriate opportunities to incorporate New Zealand Trade & Enterprise's new 'Made with Care' brand resources as part of the work. ■

Good underlying velvet demand in Korea

by Ali Spencer, *Deer Industry News* writer

The new velvet season is now well underway, with good underlying demand in the Korean and Chinese markets. However, with the global Covid-19 uncertainty, freight difficulties and extra risk for customers, opening prices for New Zealand farmers have been lower than last year.

AT THE TIME of writing (mid-November), the second virtual market visit had just taken place. Video conferences were held with 10 key Korean customers, from both the traditional and health food sectors. The meetings involved an introduction from DINZ CEO Innes Moffat and a welcome to the new season by five passionate velvet producers, commenting on producing New Zealand velvet with care. It was followed by a presentation from DINZ market manager Rhys Griffiths and then a live question and answer session.

The first calls were timed to fall the day after the launch of New Zealand Trade and Enterprise (NZTE)'s "Made with Care" campaign and the presentations reinforced its messages. The government initiative is initially aimed at helping the New Zealand food and beverage sector's positioning in key overseas markets during the pandemic.



Clockwise from top left: Rhys Griffiths and DINZ Korean representative YG Shin met online with customers from JongKyu Jang and LG.

Griffiths reports that overall, feedback about the market from companies was positive. Companies reported a slide in sales in February/March at the outbreak of Covid-19 because Chinese tourists were unable to visit brick and mortar stores in South Korea. The market has since recovered, with consumers using velvet products for its perceived immune-support and anti-fatigue functions and companies have worked out their own promotional positioning.

"Things are looking pretty sound in the markets, with underlying consumer demand good and robust," he notes.

"While pricing received by farmers here at the opening of the season was a bit stop and start, some early-season contracts had been signed and business was being done with some of the larger Korean operators and in China too."

Marketing campaigns around Chuseok, the three-day Korean Thanksgiving holiday falling this year on 1 October, had gone very

well. Companies were heartened about velvet sales, particularly via online and home shopping.

Since the virtual tour, advertisements for New Zealand velvet were placed in the three key Oriental Medicine Doctor industry publications, the Association of Korean Oriental Medicine's *AKOM News*, *Minjok Medicine News* and *On-Board*, whose reporters have visited New Zealand in the past five years to see production for themselves. Each of the advertisements, placed during the key sales season of November and December, carried "Made with Care" tiles. These focus on four themes – New Zealand's advanced and professional farming, quality control, natural environment and its integrity of production systems and supply channels –

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This velvet advertisement, which appeared in AKOM News in November/December, included NZTE's "Made With Care" logo and tiles, highlighting New Zealand's integrity, natural environment, advanced farming and quality control.



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New cuts in retail-ready range

Silver Fern Farms has added two new venison cuts to its retail range on offer in New Zealand supermarkets this holiday season.

VENISON CUTLETS AND minute steaks have been added to the range, which the company says is as a result of growing awareness of the high nutritional value and delicate flavour and versatility of farmed venison.

Even here in New Zealand, there are still legacy misperceptions about venison, for example that its flavour is too gamey or that it's only for fine dining. These hold some consumers back from trying it, but those who do are converted, says Silver Fern Farms' group marketing manager, Nicola Johnston.

"Our research shows that 41 percent of premium meat consumers are now regularly buying venison, up from 30 percent five years ago. We've responded to that by ensuring our venison range offers something for everyone, from cuts that can be used to

create special occasion meals to impress, to those that are quick, easy and nutritious for family week-night meals," she says.

Each of the two new products in Silver Fern Farms' venison range caters to different needs and complements the wider range of venison products. The 300g Venison Cutlets (portioned for two) are the first "bone-in" product in the range and Johnston says they "look exquisite on the plate as well as being beautifully tender". The 400g Venison Minute Steaks can be prepared as fast as the name promises and open a realm of possibilities such as a quick and easy lunch, canapé or snack to enjoy on the go.

The new additions bring to six the total number of venison products in Silver Fern Farms' New Zealand retail-ready range. The others are mince, diced, medallions and roast. ■



The new retail packs of Venison Cutlets and Minute Steaks are already in Silver Fern Farms retail range on offer in New Zealand supermarkets, ready for Christmas.



The venison cutlets look exquisite on the plate, says Johnston.

Velvet: continued

reflecting the worth of deer farmers' investment in upgrades for the Regulated Control Scheme.

Velvet production growth appears to be slowing a little, Griffiths comments. Figures for 2019/20 have come in under DINZ's original budget of 850 tonnes.

"While our budget has increased again this season, we expect production growth to continue to cool somewhat," he says, adding a note of caution on pricing this season, which was still difficult to predict at the time of writing.

"While there is good underlying demand, consumption is increasing and people are wanting to spend, it will cost more to get product to market. This entails financing and companies taking more of a risk, which in the current climate, might be reflected in prices paid to producers," he explains.

"Getting airfreight space is difficult and costs have increased markedly because numbers of passenger flights, which had been effectively subsidising cargo, are massively reduced. It will require good planning for companies to move product by sea," he says.

Griffiths thanked Ambassador to Korea, Philip Turner, new

Korean Trade Commissioner, Stephen Blair and their NZTE and Ministry for Foreign Affairs teams in Korea for their valuable support at a time when travel is impossible. NZTE in China has also been hugely helpful with its business development managers meeting the industry's key customers. He says the virtual tour and help from officials provides some confidence in a "massively uncertain" marketing environment.

"By mobilising our contracted staff, aided by NZTE and MFAT, the tours have worked well to keep us in our customers' minds," he says.

Follow-up personal visits from Blair and Turner to a couple of traditional players and a few bigger food companies will be "a big kudos for us," says Griffiths.

"Ambassador Turner, in particular, has been a fantastic supporter of what we're doing in the market. It is a time of uncertainty. While demand is looking promising, it doesn't take away from the fact the world is currently in a weird place." ■

• See page 27 for a report on an earlier presentation by Rhys Griffiths to branch chairs in October.

Point proven: Growth BVs really do get in

by Phil Stewart, *Deer Industry News* Editor

Remember that old toothpaste ad where Mrs Marsh showed the kids how fluoride really does get into their teeth, “just like liquid into this chalk”? Well in a funny kind of way, three commercial venison farmers have also just proven that “It does get in!” Only in this case it’s the genes for good growth that got into their breeding herds. They delivered not tough teeth but progeny that grew as fast as their breeding values would lead us to expect.



Like the old “liquid into this chalk” example, the BVs in practice programme showed superior genetics really do get in when it’s a commercial venison setting.

WE LAST REPORTED on the Passion2Profit programme to show BVs in practice in the August/September 2020 *Deer Industry News* (p20). To quickly recap: on each farm, two venison sires with BVs for weight at 12 months (W12) about 10kg apart were used over breeding hinds. The resulting progeny were then run together in similar conditions (e.g. the same feed and same animal health treatments).

The idea was to show how well BVs might express themselves in a typical commercial farming setting. In theory at least, where there was a 10kg difference between two sires for W12 and all of the hinds were of similar genetic merit, you could expect an average 5kg difference in liveweight between the two groups of progeny from the sires, as they would have picked up half of the genes for the 10kg growth advantage.

On two of the three farms the actual difference in weight at 12 months turned out a little greater than the W12 BVs would have suggested. On the third farm the grouping was a bit tighter and the picture more nuanced, but even here (there were four sires with recorded BVs used, not two), the genetics for growth still left their mark. So let’s summarise.

John and Tash Hamilton (elk wapiti venison, Winton)

The difference in merit for W12 for the two elk sires from Tikana used was 12.6kg. You would expect then, that on average and balancing the figures for sex, that the average liveweights for their progeny at 12 months would be 6.3kg apart. When weighed on 5 November the difference between the progeny of the two sires was 8.5kg. This translates to a carcass weight advantage of 4.6kg, or an advantage of around \$27/head at a \$6 schedule, for the higher-merit sire.

All progeny grew well and the lightest from both groups was 95kg (a female) at 18 August so all could have been slaughtered by then if market conditions made that an attractive option.

John Hamilton told *Deer Industry News* that he’d expected the differences to show through, since the science behind the Deer Select BVs is “quite robust” but was pleased to see the proof confirmed in the liveweights. These tracked fairly consistently throughout the period from weaning (when the two groups of fawns had almost identical weaning weights) to drafting in November (see Figure 1).

He routinely looks at BVs when he’s buying sires, not focusing on any one trait but looking for a “good all rounder”.

“It’s really important to have a good plan and know what you want in a sire. I wish I’d started doing this earlier!” Now that he’s completed the exercise tracking the impact of growth BVs, Hamilton said he may now focus more on growth as well as the new CARLA BV for parasite resistance when selecting new sires.

Duncan and Lorna Humm (red venison, Mt Somers)

Two Melior red sires were used, with a BVs for weight at 12 months of +30.78kg and +19.5kg, a difference of about 11.3kg. Weaning weights were almost identical and the fawns were run in very uniform conditions. As happened on the Hamiltons’ farm, the liveweights tracked closely in line with what the difference in BVs suggested (Figure 2). One feature was that daily growth rates continued strongly through winter for both sets of weaners. Some cracked 300g/day on a mixed pasture/herb species diet.

Balanced for sex (figures were adjusted to a 50:50 male:female ratio when actual numbers were uneven) there was an average 8.4kg liveweight advantage for the progeny of the higher-BV sire

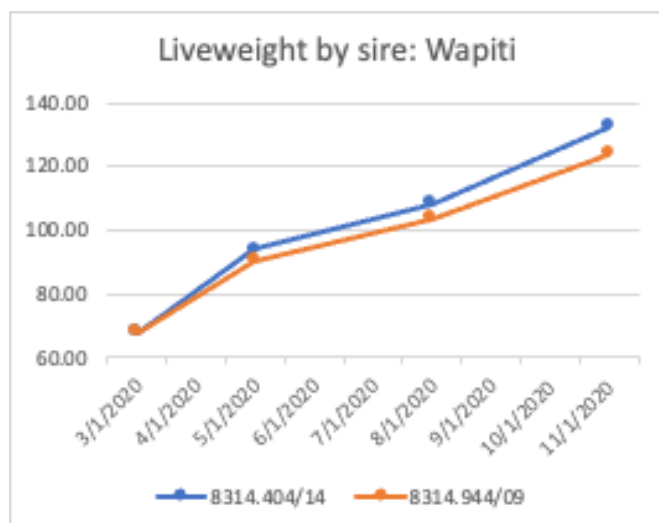


Figure 1. Weighted liveweight for progeny of two sires on the Hamiltons' property from March to November – balanced for sex. The W12 BV for the superior sire (blue line) was +20.8kg. The other sire's W12 BV was +8.2kg.

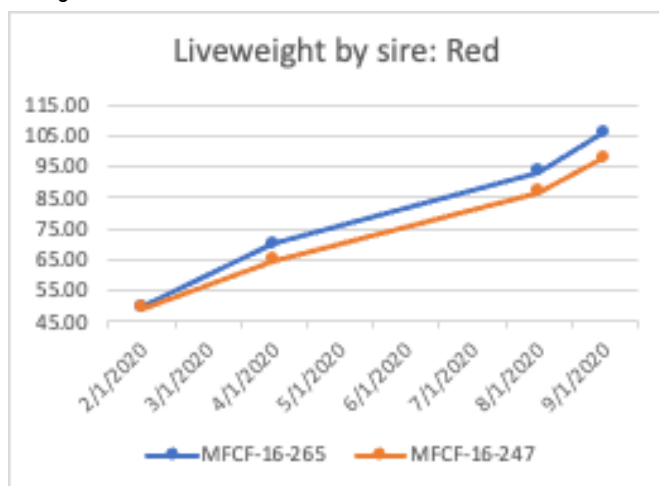


Figure 2. Weighted liveweight for progeny of two sires on the Humms' property from March to September – balanced for sex. The W12 BV for the superior sire (blue line) was +30.78kg. The other sire's W12 BV was +19.5kg.

by early September. This translates to an extra 4.6kg carcass weight, also worth an additional \$27/head at a \$6 schedule.

Duncan Humm said he expected the progeny from these two high-BV sires to do well, “but you never know for sure until you give it a go”. He said the progeny of the two sires well outperformed those of their homebred stags, which wasn't a surprise. “Ours were behind the whole way through. I can see the advantage [of these high-BV genetics] compounding in the herd over time.”

In fact the Humms have retained a few of the high-BV sires' hind progeny to use as replacements. “The sires had fantastic temperament and their sons are really quiet and easy to handle too.”

Duncan said it was important to share breeding objectives with the person who was selling you sires, and in this case there was a good fit. Both the Humms and Melior's Tom Macfarlane favour bigger hinds – not a small “Perendale type” – that can raise big fawns and have the extra condition on their backs to support progeny through a difficult summer if need be.

Humm admits that he's a bit old school when it comes to selecting sires, still placing a lot of importance on a stag's own phenotype – how their genetics are expressed. “Breeding values, conformation and temperament – they're all important. There's no single thing. You want to be putting good stags over good hinds. If you're putting them across average hinds then your progress will be that much slower.”

David and Ali Seifert, (red venison, Raetihi)

The results from the Seiferts' trial of BVs in practice were a little more subtle than for the other two properties, but even though more tightly bunched, the value of superior growth genetics still shone through. They used four sires from Ruapehu Red Deer, resulting in nearly 100 progeny. The sires' BVs for weight at 12 months ranged from +19.54kg to +28.22kg, a spread of about 8.7kg.

The highest-BV sire (number 422, blue line on Figure 3) was put over more second and third calvers, while the others were mainly mated to mixed-age hinds. As a result, 422's progeny were at the lighter end of the range at weaning. But over the next 8



Duncan Humm: Breeding values are part of the package.

months they quickly caught up with and eventually overtook the heavier weaners, being about 2.4kg heavier than the next group by November and about 7kg heavier than the lightest group. David Seifert said the progeny from sire 422 stacked on 20kg in the 60 days to their weighing in early November.

Another feature was contrasting seasonal growth patterns. Two of the sires (orange and grey lines on Figure 3) had almost identical BVs for weight at 12 months but at weaning were almost 3kg apart on average. Over the next 8 months the progeny of sire 252 (grey line) tracked below the other groups but showed strong spring growth to end up with weight at 12 months less than half a kilogram away from sire 236 (orange line). So the progeny of both sires ended up where the BVs indicated they would at 12 months – but their growth profiles to get there were different.

The progeny of sire 285 (yellow) performed slightly lower than expected from its W12 BV.

Seifert strongly agrees with John Hamilton and Duncan Humm that it's vital to buy from a breeder whose objectives match your own. "I was already a convert on the value of good BVs, but this exercise has really confirmed it for me."

Seifert is retaining 13 of the spikers from this exercise to mate the yearling hind replacements. Seven of them are from the highest-BV stag of the four used in this exercise, (no. 422). "It's important that any stag you buy has good conformation and can handle the demands of mating and hill country. But a good breeder should have already taken care of those issues. It's the BVs that really matter. Those show up in their progeny and relatives. That's where the real value lies."

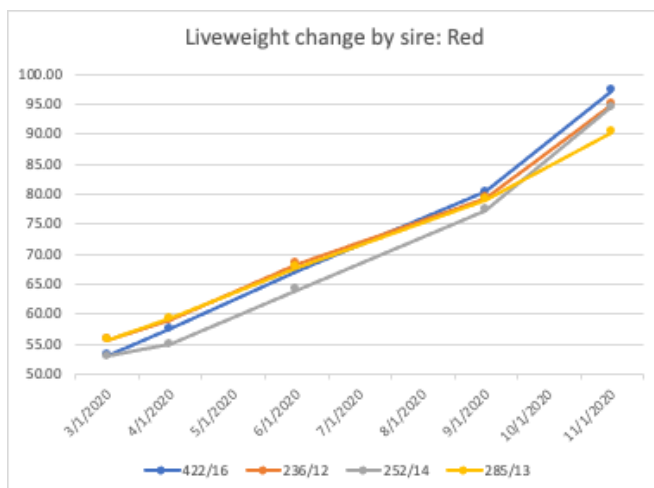


Figure 3. Weighted liveweight for progeny of four sires on the Seiferts' property from March to November – balanced for sex. W12 BVs for the sires were: 422 (blue line) +28.22kg; 236 (orange) +19.54kg; 252 (grey) +20.05kg; 285 (yellow) +22.9kg.

Summing up

So, to paraphrase the inimitable Mrs Marsh's pupils, when it comes to injecting genetic merit into a herd, "it really does get in". The big difference with deer is that the proof has come in the real world in real commercial farming settings – a lot more compelling than a bit of chalk and coloured water. ■



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Talking ticks, FE and internal parasites

by Phil Stewart, *Deer Industry News* Editor

The list of common animal health ailments in deer is quite diverse, but if you ask farmers from Waikato and other northern regions, one problem rules them all: ticks.

THREE OF THE industry's most respected commentators on deer parasites and other health issues got together for a regional workshop on 1 October in north Waikato, supported by the Waikato branch of NZDFA. While ticks were the main focus there was also good discussion on internal parasites as well as facial eczema (FE), another regional issue for deer farmers.



The Waikato NZDFA hosted a successful regional workshop on ticks, FE and internal parasites.

Geoff Asher: Not easy picking what works

Workshop facilitator **Geoff Asher** retired earlier this year as senior scientist and project leader at AgResearch Invermay. He led a quick poll of the attendees, which showed the depth of local concern about ticks.

Some reported chronic tick problems, even with generous use of the existing registered treatments. Reports of velvet infested with ticks, even on animals wearing tick tags, were common, sparking concerns that ticks might be developing resistance to current treatments.

One farmer reported the ticks were so bad that even their pet rabbit was infested. Another reported having seen ticks "crawling up the fenceposts".

(There were one or two strong believers in the efficacy of sulphate of ammonia on pastures to kill ticks, although the treatment doesn't work if the chemicals get wet before they have a chance to "gas up" and do their work.)

It's now believed that ticks are established on deer throughout the North Island, with Cook Strait the effective "tick line".

One farmer reported a handful of animals appeared to have

suffered skin irritation from the current pour-on treatment. It was suggested that this might have coincided with the sloughing of winter coats so could have been coincidental.

Asher commented that it's difficult to know what works best on a property (especially a smaller farm) when you can't use untreated controls as you might in a research situation.

Resistance might be conferred by genetics but Asher noted that deer can also acquire resistance to parasites through their life. He also noted that other issues such as Johne's disease and malignant catarrhal fever (MCF) have declined in deer now that farmers are feeding them much better and removing the nutritional stressors that can trigger disease.



Three wise men – from left: Ian Scott, Dave Leathwick and Geoff Asher.

Ian Scott: Get onto ticks early

The first speaker, **Ian Scott**, is a well-known local deer farmer and veterinarian with years of first-hand experience dealing with ticks, FE and internal parasites. He's also written and presented extensively on the subject.

Scott's advice was to go hard and early on tick control. "Ticks are smart! They are designed for survival. The only way to get control is to have a good animal health plan and stick to it. Don't just do tick treatments when it suits you."

He recommended tick tags on all deer – believing they're the most effective tool when used properly – and advised against letting untreated alternative species onto pasture. "They'll just reinfest it and start the cycle again."

Rotational grazing helped control ticks because it exposed them to UV light, he said. "Set stocking deer suits ticks very well!"

Scott also said ticks will never be eliminated 100 percent. The key was to get control to a level where they were no longer having a significant effect on production. As with internal parasites, he

said good control needed to be multifactorial (e.g. good treatments combined with good grazing practices).

Dave Leathwick: Finding what makes ticks tick

AgResearch's principal scientist in parasitology, **Dave Leathwick** has been studying parasites in livestock and horses for over 30 years. He said they are hoping to set up an artificial rearing system for ticks at the Palmerston North campus, in part because there are ethical issues around maintaining an infested group of parasite hosts (e.g. rabbits).



Cattle ticks are happy on a wide range of hosts, including deer, pets and people.

The cattle ticks (*Haemaphysalis longicornis*) that cause so much trouble in deer have fairly eclectic tastes and are equally at home on sheep, cattle, goats, humans, horses, rabbits, hares and domestic pets.

Leathwick pointed out they are a major disease vector (think *Theileria* in cattle, but also of a major human respiratory disease in Asia). His group are interested in studying the parasite's symbionts – the bugs that live in their gut and help keep them alive – as a possible pathway to control. Green blowflies for example, carried a bacterium (*Wolbachia* sp.) that kept them alive. “Kill the bacteria and you kill the fly,” Leathwick said.

He said progress was being made, with AgResearch's insect pathology group at Lincoln already working on possible biological controls – fungal pathogens that might kill flies as well as ticks when sprayed on pasture. The group was currently screening isolates with potential to target particular parasites. Leathwick said there was already a such product targeting porina under development.

The facial eczema challenge

FE is of equal concern for Waikato deer farmers, but Geoff Asher said that climate change means what were once regional problems (ticks, FE) are becoming national problems. Resourcing for dealing with these should reflect this, he added.

When Asher worked with deer at Ruakura, dosages of sporidesmin (the toxin that causes FE) at rates that would be subclinical in sheep had a “terrible” effect on the fallow herd.

“Fallow are definitely very susceptible. They can get either acute or chronic FE, but they will never really fully recover.”

There was some feeling that deer from southern areas of New Zealand were less resilient to FE than locally raised animals that had generations of exposure.

Asher said there was a school of thought that resistance to FE could be bred into deer, hence the suspicion that South Island sires might not thrive in the North Island's FE-prone areas.

Ian Scott said signs of FE were less obvious in red deer than in cattle. “The only place you'll see it is in the mucous membranes of the nasal passages and eye conjunctiva.” Signs were usually clearer in fallow, however, which also suffered damage to tongues and ears. Blood enzyme levels are not good indicators.

He said a post-mortem tells a compelling story, with severe internal damage caused by the sporidesmin that deer have ingested. While the sporidesmin did cause liver damage in deer, the effect was more widespread than that. The disease also caused brain damage and could cause blindness, while the impact on intestinal lining led to scouring.

Scott said scouring could indicate one of many diseases and, in deer, scours from FE could be mistaken for signs of internal parasites. He said weaners could regurgitate zinc boluses and they weren't protective, so he'd found proactive pasture spraying with antifungals seemed the best FE prevention for deer. It was important to make sure all pasture was covered and to keep an eye on spore counts.

Dave Leathwick said a group at AgResearch Grasslands was looking at the saprophyte *Pithomyces chartarum* that produces sporidesmin when it's on decaying ryegrass. Not all *Pithomyces* isolates produce the toxin sporidesmin, however, and in fact New Zealand is one of the few places in the world where it causes FE.

“Our endophyte people have sequenced the genome and think they've found a gene cluster that's responsible for the toxin.”

Leathwick said AgResearch was also investigating a vaccine to protect against the toxin that causes FE. “This would take a long time to develop. Don't hold your breath.”

Work was also going on to find an alternative to Ramguard®, so resistance to sporidesmin in individual animals could be ranked by testing serum from an animal rather than dosing the live animal with sporidesmin.

Internal parasites: resistance and efficacy

Is drench resistance farm specific? Dave Leathwick said that with sheep at least, resistance is readily trucked between farms. He said that poor efficacy could be either because drenches weren't being delivered effectively, or because there was actually resistance in the parasite populations. “Drench resistance in sheep and cattle is rampant,” he said.

The fact that some deer farmers could get away with drenching young stock just once, while others needed to drench eight or



Workshop attendees.

nine times meant “there is something going on that we don’t understand”.

Geoff Asher said deer usually developed resistance to lungworm as they matured, but if an animal was injured or had suppressed immunity for any reason, lungworm could still take hold in older animals.

Ian Scott commented that he’d seen three-to-four-year-old wapiti bulls still getting lungworm. “I did a lot of larval cultures in the early days and saw a lot of *Haemonchus* [Barber’s pole]. Then, later in the season, was a transition to *Trichostrongylus*, *Ostertagia* and *Cooperia*.”

He added that post-rut weaning takes a lot of gastrointestinal parasite pressure of young deer, and speculated that the later-weaned animals might be receiving increased resistance through their dam’s milk.

Are injectables or orals better? Dave Leathwick said there was evidence that injectables gave better coverage of *Ostertagia* in

cattle, but in all other cases oral drenches seemed better. “I’d never recommend a pour-on, except for lungworm.”

Leathwick reported that the postdoctoral study into deer parasite lifecycles being done by Alex Chambers would throw a lot more light on the interactions between deer and parasites and the effects of weather variables on parasites on pasture. When more was known about the effects of weather on egg and larval development, there was potential for more farm-specific drench programmes to be developed, which would match treatment to risk of pasture contamination.

He said the work was showing that while many adult deer shed very few eggs and larvae, a few individuals shed very high volumes. This could open the way to identifying and removing these individuals.

In conclusion Leathwick said the solution to internal parasites “is not in a drench canister”. Some farmers had the “drench gun jitters” and needed to break the habit of regular drenching regardless of need, he said. ■

Winter grazing expected outcomes explained

The Winter Grazing Action Group (WGAG) recently released a document outlining short-term expected outcomes for animal welfare.


1. We ensure our animals give birth in the right environment
2. We are prepared for all weather conditions
3. Our animals can easily access acceptable drinking water
4. We plan for successful winter feeding
5. Our animals can lie down comfortably
6. We work together to provide care to our animals during winter
7. We find opportunities to improve.



While the first outcome on birthing environment was framed more with dairy than deer farming in mind, they all apply to our sector. To hear a more in-depth explanation of these outcomes, check out Sarah Perriam’s interview with WGAG chair Dr Lindsay Burton, where he outlines what the group expects from farmers. It’s well worth a listen: <https://bit.ly/3eRLRRB> ■



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Meet the staff

Science and policy manager **Catharine Sayer** has travelled a long way in her career, both physically (from “The Potteries” in the UK to Wellington’s Island Bay) and in her responsibilities. Having started out as a barrister, she worked in various UK and New Zealand government departments before joining DINZ in 2011. Here, she helps shape policy and manage projects for the deer industry.

ON THE SCIENCE side, Catharine looks after the part of the deer industry’s innovation system that involves investment in formal research. In policy work, she advocates for the industry on regulatory settings that affect it in a technical sense. These are mainly biosecurity and food safety matters and sometimes animal welfare, Catharine explains.

The job has evolved. Environmental policy work “took off” after she joined and threatened to swamp everything else, so a dedicated person – Lindsay Fung – was hired to look after that (see Lindsay’s profile below).

On the science side, DEEResearch and VARNZ have now been wound up, so there’s now no need to manage these groups. “That’s a great change, as I can focus on conversations with a broad stakeholder base on science priorities rather than on corporate formalities,” Catharine says. “I also travel far less than at the start, domestically and internationally. While I love to get out and about, it’s not very efficient, so I tend to travel only where first-hand observation is needed.”

Although it never materialised as a commercial product, working on RepaiRx™ stands out as Catharine’s most memorable and challenging project to date.

“My job was to run a human clinical trial at Middlemore Hospital. It was resource-hungry and challenging but also grew my relationship management skills immensely. The project came to a sad ending as there wasn’t enough patient throughput to give meaningful results. It’s probably little comfort for velvet producers, but we learnt a lot from that project!”

Working in a small team demands some versatility. “Occasionally we get to run a project outside our job descriptions – a great way of expanding our knowledge and contacts.” Her “off-piste” activities have included developing the Deer Hub and DINZ health and safety framework. Right now she’s managing the VelTrak velvet traceability project.

“It’s always humbling working with busy people in the field who devote time to talk to us for industry good reasons,” Catharine concludes.



Lindsay Fung has worked not once at DINZ, but twice. He first joined the team in 2006 in the newly created position of science manager after a stint as science team leader at a regional council.

AFTER HAVING LEFT in 2010 he rejoined DINZ in 2013 with a more environmental focus, appointed as environmental policy manager (now environmental stewardship manager).

While his academic and professional background have featured forestry and horticulture, Lindsay sees common ground between the deer industry and those sectors.

With plenty happening to affect livestock farmers recently at both central and local government levels, Lindsay is kept busy developing or advocating environmental policies that don’t disadvantage deer farmers.

An important part of this work has been establishing local links between deer farmers and regional councils. His science policy and communication background is also put to good use helping identify research or information needs to farm deer profitably and within environmental limits.

Lindsay’s work was initially “very reactive” to regional plans, playing catch up and ensuring a deer farming perspective was effectively communicated.

“We’re now moving towards better relationship building between DFA branches and local councils,” he says, but adds

that central government is becoming more dominant. “It’s getting harder to shift mindsets at that level.”

The Southland Economic Project stands out as a great, long-term collaborative project that has provided a good foundation for positive interaction with Environment Southland.

Lindsay was also pleased to witness the collective power of drystock farming and particularly vocal, engaged deer farmers, that helped head off some extremely unfair conditions for deer farming under Waikato Healthy Rivers (Plan Change 1).

Like most who spend time confined to a Wellington office, Lindsay enjoys visiting ordinary deer farmers and seeing their farming operations. He’s invariably impressed by what he sees. “I’ve yet to see [a farm] that I would not be happy to show a council or government regulator. Deer farmers do a pretty good job, with



continued on page 17

Pioneer deer farmer calls time

This spring saw the end of one of the longest active deer farming careers in New Zealand with Brian Beattie selling the last of his hinds and fawns.

THE FORMER OWNER of Dry Creek Station was among the first in South Canterbury to start farming deer, establishing a herd behind wire in the mid 1970s.

“When I started, my friends said ‘Beat’s gone mad: he’s putting deer in paddocks,’” he recalls.

“They all said it would be a flash in the pan but pretty soon I was getting up to \$5,500 per hind. You couldn’t argue with that!”

While prices dropped to more realistic levels in due course, by that time deer farming was an established industry and red deer caught or bred on Dry Creek had gone nationwide.

“There would have been 56 to 58 deer farms in New Zealand that were started with Dry Creek animals.”



Last of the class: Brian Beattie feeding out barley to his last crop of weaners earlier this spring.

But it wasn’t the money to be made for breeding stock that got him into it: it was persistent poaching of feral reds on Dry Creek and the inability of local police to do anything about it. The final straw came when he and another local farmer took a trespass prosecution against two poachers caught with loaded rifles and seven recently shot deer.

The trespass charge was dismissed by the magistrate and the poachers fined just \$20 for “disturbing cattle”.

“I said ‘that’s it!’ And we got the helicopters in and started putting them in a paddock. We didn’t know how we were going to farm them but we were going to find out.”

While he didn’t do any of the mad stuff, like “jumping out of the

chopper onto their backs” to capture deer – “we used darts and nets” – he still has a good tale or two from those days, such as the time one of the electric “taser” darts pulled out of a stunned deer before it could be lashed and loaded.

“It jumped into the helicopter and broke the windscreen. Tim [Wallis – the pilot] had to kick it out with his boot!”

Venison was the main product initially because velvet quality and quantity from the captured stags were “just rubbish” but in time, with breeding and feeding, he got into velvet too, cutting 60 to 80 stags a year.

“We used to dart them through a hole in the wall then jump in and remove their antlers when they went to sleep.”

Finding cattle dehorners unsuitable for the job, and wire-saws too slow and hard work, he designed dedicated antler cutters, similar to garden loppers only bigger, and had them made locally. Besides cutters for his own use, he sold a hundred or more pairs to other farmers.

Another recollection of those pioneering velvetting days was when the vet told him he had to do a course on antler removal, but on the course he found he was the one doing the training.

“I taught them how to drug deer!”

Snow was a regular occurrence on Dry Creek, with an occasional fall of several feet. “In ’73 it took us all day to get from the house to the shed half a mile away. You know it’s deep when you can only see the heads of the horses!”

Such conditions were never too much of a problem for deer, but he lost a brother in an avalanche snow-raking for sheep in 1954.

“I was supposed to be in the same avalanche but my father had given me a spell.” What he doesn’t say is that a year earlier, aged 15, he’d been in hospital, paralysed with polio.

In those days Dry Creek was part of an even larger block farmed by his family, including the now neighbouring Meikleburn and Lochaber Stations. His two remaining brothers bought Meikleburn and Lochaber off his father, while he took on Dry Creek, the largest and most expensive including a newly built station house, in 1964.

“Everyone said he’ll not manage it, not with a new house, but everyone got paid out.”

During the 1980s price bubble, when even stockbrokers and surgeons were investing in deer, the profits also paid for bulldozers, graders and station development, not that Beattie ever farmed it very intensively.

“Before I left, I received a letter from DOC congratulating me on

Meet the staff: continued

or without regulations.”

One task that gets him out and about has been visiting entrants in the industry’s biennial environmental awards.

“They always say ‘I don’t think I’m ready’ and actually they’re always more than ready.

“It is very satisfying to work for an industry focused on

doing the right thing for their animals, families and land. Their enthusiasm and positive approach makes my job rewarding and it’s easy to communicate this approach and attitude to regulators and politicians. Having farmer leaders and colleagues who are similarly focused and not driven by egos is a real strength of this industry.” ■

the all the flora and fauna that were on the property after all those years.”

Besides his 500 hinds and their followers, shortly before selling in 2010 he had about 7,000 sheep and 500 cattle on the 14,000ha property, which runs up to 1,680m above sea-level.

Since then he's farmed 250 hinds plus followers and finishing

cattle on 140ha nearer to Fairlie. Now, he says the final straw prompting him to pull the pin on nearly seventy years of farming isn't poaching, but NAIT and compliance.

“I'm a farmer. I can't work a computer. We used to be able to farm and have fun while we were making money for the country. You can't now.” ■

Cross country on a bulldozer

Besides farming, Brian Beattie's had a passion for old and out-of-the-ordinary machinery and was among the founders of Fairlie's Heritage Museum.

His collection includes a tracked WWII Bren machine-gun carrier used on Dry Creek to tow wool trucks through fords, a couple of GMC trucks which also saw service on the station, vintage tractors and a Russian-made Airboat.

“The airboat replaced a hovercraft.”

He also used to race jet boats, having bought “No.15 from Hamilton”, and still has a D6 Bulldozer which was “the best of the three” he had at Dry Creek. He sold one to Mesopotamia Station. When the cost of transporting it by road threatened the deal, he drove it there himself, cross-country, over the Ben McLeod range. “It took me two days!”



One of three D6 Caterpillar bulldozers Brian Beattie had at Dry Creek Station, putting in tracks up to 1,600m.

Not all Cervidae created equal

THERE ARE MANY great options and opportunities within the Cervidae industry and the Elk Wapiti Society would like to reiterate some of the results being highlighted from Deer Link, Deer Progeny Testing, P2P and Deer Select.

Fact: Not all Cervidae are created equal. Elk Wapiti animals provide distinctive advantages to the greater Cervidae industry.

Farmax™ modelling by J Ward and B Thompson utilising Deer Link information shows:

- ✓ greater proportion of the “annual peak season kill” are sired by Wapiti (NZSAP 2017 Vol:77).
- ✓ Greater numbers of terminal progeny killed at higher schedule prices.
- ✓ Less feed eaten to total kilograms of venison produced.
- ✓ Greater “income” from female progeny killed.

Deer Progeny Testing has proven some key advantages of Elk Wapiti sires:

- ✓ Increased growth rates of female progeny when crossed with red hinds.
- ✓ Increased opportunity for tangible winter weight gains.
- ✓ No animals requiring a second wintering.
- ✓ John Hamilton's Wapiti project (P2P/DINZ 2016) highlights:
- ✓ Wapiti weaners killable early October.
- ✓ Increased returns on delaying kill 20 days to include harvesting velvet.
- ✓ Close to 200% gain on “income variation” when killing at Oct +40 days, over Oct +20 days.

Elk Wapiti facts other than production:

- ✓ Industry leaders in CARLA testing.
- ✓ Increased international market opportunities for wapiti products.
- ✓ Genuine multi-purpose breed: velvet, trophy and hybridisation.
- ✓ Greater opportunities for earlier crop sowing dates, paddock cultivation, spring fertiliser.
- ✓ Reduction in operational debt due to earlier and greater returns.
- ✓ Increased Elk Wapiti sire retirement value utilising Elk Wapiti trophy industry.

The Elk Wapiti trophy industry is on the verge of greatness, not only with New Zealand producing the animals the world market wants, but it is also widely believed this market is underutilised.

New Zealand is becoming an extremely attractive destination for hunting Elk Wapiti due to:

- ✓ Safe travel.
- ✓ Currency, great exchange rates for international dollars.
- ✓ International recognition for Elk Wapiti trophies.

Elk Wapiti breeders who breed for trophies usually achieve 100% clearance. Many Elk Wapiti bulls sold as terminal sires would also be suitable for the trophy industry, which is more profitable than their meat value.

Not only will most well-looked-after Elk Wapiti terminal sires perform better, last longer and cut more velvet, they will have a greater opportunity to take advantage of the trophy market and reduce your expense when replacing that retiring bull. ■

• Article supplied

ELK & WAPITI SUPPLIERS

Trophy Suppliers:

Tracey McLean - Achnahamat - tracey@sockworks.co.nz
Paul Waller - Longridge Elk - pwaller@gmail.com
John Falconer - Clachanburn - john@cbdeer.co.nz
Tom May - Mayfield Elk Farm - tom@mayfieldelk.com
Neville Cunningham - Mt Cook Trophy Hunting - contact@mtcooktrophyhunting.co.nz

Terminal Sire - Auctions:

Raincliff Station Wapiti:

Pleasant Point
Tues 12th Jan 2021, 10am
Dave Morgan, 027-230 3357

Lochinvar Wapiti:

Te Anau
Sun 17th Jan 2021, 11am
Ross Carran, 027-289 7563

Connemara Wapiti:

Te Anau
Sun 17th Jan 2021, 2pm
Murray Hagen, 021-220 7889

Littlebourne Wapiti:

Winton
Mon 18th Jan 2021, 1pm
Geoff Pullar, 027-617 9971

Private Treaty Suppliers - North Is:

Totara Park Wapiti:

Dean Wilkinson, totarapark@orcon.net.nz
Ph 027-403 5440

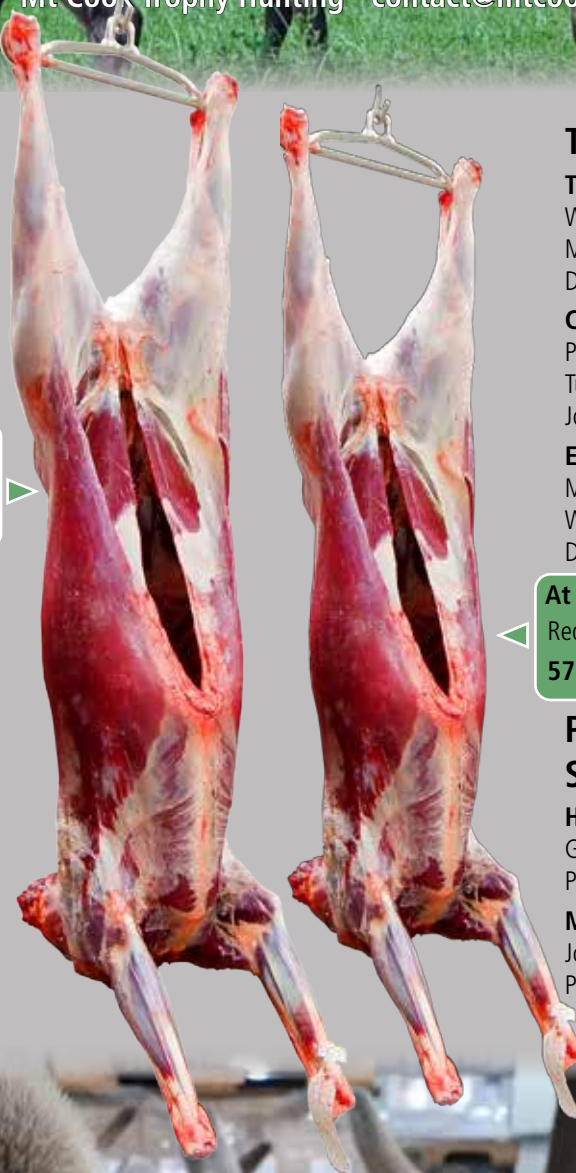
Steinvale Wapiti:

Harley Steiner, Ph 027-431 7431

Oraka Wapiti:

Ian Scott, orakadeer@extra.co.nz

At 12 mths
Wapiti x Red
70kg



Terminal Sire - Auctions:

Tikana Wapiti:

Winton
Mon 18th Jan 2021, 3.30pm
Dave Lawrence, 03-236 4117

Clachanburn Elk:

Patearoa,
Tues 19th Jan 2021, 1pm
John Falconer, 027-434 4593

Edendale Wapiti:

Mt Somers,
Wed 20th Jan 2021, Noon
Donald Whyte, 03-303 9842

At 12 mths
Red x Red
57kg

Private Treaty Sire Suppliers - South Is:

Hasse Elk Farm:

Grant Hasse, hasseelk@gmail.com
Ph 027-224 5542

Montalto Elk:

John Bartholomew, jbart@extra.co.nz
Ph 027-490 5782

ELK WAPITI SOCIETY NZ

For further information including new membership enquiries:

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elkwapitinz@gmail.com

Elk Wapiti Society - Velvet competition - Cromwell - 29th & 30th Jan 2021

Perfect timing for immune function research

by Phil Stewart, *Deer Industry News* Editor

With all the talk of Covid-19 vaccines, there's plenty of attention focused on immune function right now. As it happens, some new research is planned into whether velvet can boost innate immune cell function in humans. Coincidence? Actually it is, although the timing turns out to be excellent.

THE PROJECT COMES under the Post-farm segment of the new co-innovation model for deer research. It is one of four projects recommended in a research "Learning Phase" report looking at deer velvet antler and immune function. DINZ and AgResearch had agreed that immune function should be a high priority velvet property for investigation back in the pre-Covid days of 2019, after immune support had been identified – along with "anti-fatigue" – as a principal reason for consumer use of velvet in core Asian markets.

When DINZ's manager – markets, science and policy manager and environmental stewardship manager took their successful Korean virtual market tour in May, support for this research direction was further strengthened. It turns out our core markets for velvet products will be very receptive to good evidence that velvet extracts could help boost the immune response when Covid vaccines are given.



Core markets are receptive to evidence that velvet extracts could boost immune function when Covid vaccines are given.

The Learning Phase project report details the current state of knowledge and health claims made for velvet products and outlines what's known about anti-inflammatory and immune function properties. Finally it identifies four different research options that could help support health claims for velvet's anti-inflammatory and immune function capabilities.

The report, compiled by AgResearch's Mallory Crookenden, Stephen Haines and Axel Heiser, notes that velvet antler extracts have demonstrated anti-inflammatory effects and that, in animal models at least, velvet antler treatment has been shown to have immune-boosting properties.

While the research to date has been encouraging, the authors acknowledge that providing evidence to support marketing claims for natural products can still be challenging.

The concept of healthy functional foods can be difficult to pin down, inhabiting a somewhat nebulous space between food and medicine. Pathways to market for new velvet-based products with substantiated health claims are complex, but with good science behind them, the rewards could be significant.

The report details the experimental models used to build evidence to support claims. Cell culture has the advantage of relatively low cost and ethical hurdles, but is mainly a way of identifying promising compounds for further investigation.

Animal models are a next step in the process of assessing safety and efficacy, followed by human clinical trials. That is where the biggest research investment comes, as the trials need to be large scale.

The report says much of the research supporting claims of positive biological effects from velvet has been done in Asian countries, but notes that the way bioactive peptides are extracted from velvet plays a big part in how they work. They propose four alternative areas of study to help fill gaps in knowledge about the extracts and their positive health effects, especially on boosting immune function. They are:

1. Does velvet act as an anti-inflammatory?
2. Does velvet antler improve innate immune cell function?*
3. Does velvet antler improve adaptive immune cell function?
4. Is velvet antler protective against influenza?

*Answering this question has now been identified in the Post Farmgate group (below, see p39) as a tactical choice.

Science4Success: Areas of investment

Science4Success (S4S) is the new joint DINZ-AgResearch programme and a successor to the DEEResearch/VARNZ model. The following list details projects that have so far received buy-in from co-leaders of all the groups and have been endorsed by the DINZ board and AgResearch's funding committee.

continued on page 39

Nuffield: Turning crisis into opportunity

by Ali Spencer, *Deer Industry News* writer

“Never waste a good crisis” is an old saying but one that applies to the subject area for one of the newly appointed clutch of 2021 Nuffield Scholars, deer farmer Ben Anderson.

THE CENTRAL HAWKE’S Bay velvetter, a former New Zealand Army officer and son of sheep and beef farmers, received his award from Minister of Agriculture, Damien O’Connor, in Wellington in early November.

Ben’s broad study area, which he is now refining, is the opportunities arising for New Zealand farmers from climate change. He wants to look particularly at how New Zealand agriculture can use the slow-burning climate crisis to drive environmental performance and put money back into farmers’ pockets.

“While we absolutely need to manage the impacts and do what we can as global citizens, we are well placed to position ourselves as a leader in sustainable agriculture,” he believes, adding this will become increasingly important and place New Zealand at the premium end of the world’s food supply.

“There will be opportunities to push forward in environmental performance and achieve greater economic returns for doing so.”

Ben and his wife Amanda Langley own and manage Puketotara Farm near Ongaonga. They bought it as a going concern with good potential three years ago from John and Maria Douglas, when the latter couple retired. The Douglasses’ investment in good genetics lives on in the Andersons’ herd of 600 red deer – including 300 velvetting stags, replacement stock and hinds – and a few bulls, on 135 hectares of traditionally summer safe country.

“It’s going really well, although last season was tough through drought and Covid,” he says. “We are very fortunate to have bought this property and to have had people in the industry giving us good advice and support us individually and through our Advance Party. Also, the resources DINZ puts out are exceptional.”

He sees the Nuffield as a good mechanism to repay those favours to industry.

Ben joins four other 2021 New Zealand Nuffield scholars and over 160 Nuffield alumni

who have been awarded the Scholarships over the past 70 years. Those include Solis Norton, now DeerPRO Project Manager, who looked at energy use in primary production food chains in 2019 (see *Deer Industry News* December 2019, pp44-45).

Covid-19 border closures have disrupted the traditional Nuffield travel programme and in February 2021 the scholars will start their 12- month programme with extensive national travel to gain a deeper understanding of New Zealand’s primary sector before embarking on any international travel.

“We’ll make do as best we can,” says Ben, who anticipates a lot of discussions with overseas contacts using technology like Zoom, Teams and Skype.

Although he’s keen to visit countries adapting to climate change and turning environmental compliance into a value-add, he says: “We can talk to people in New Zealand too and can still travel after the study period.”

Whatever topic he finally lands on, Ben is keen for it to benefit the deer industry as well.

“I can’t wait to get started.” ■



Ben Anderson and Amanda Langley at Puketotara. Amanda works off-farm running Project Haus, a management company specialising in natural resource projects.

Low-slope rules fail high country eco-farmers

by Trevor Walton

Hamish and Julia Mackenzie, owners of Braemar Station, Lake Tekapo, are environmental award winners. But they are far from happy with the Government's proposed water quality rules.

"BLANKET RULES ANNOY me," says 'Mish'. "People with squeaky pens and highlighters have drawn up rules without any idea of what it means on the ground."

Of particular concern are the maps drafted by the Ministry for the Environment (MfE) showing land of less than 10 degrees slope. From 1 July 2025, beef cattle and deer must be excluded from wetlands, and lakes and rivers over one metre wide on this low-slope land.

On the face of it, this means most of the streams running across their high country property. They are uncertain about what it means for wetter areas in native cover. "What's the definition of a wetland?," Mish asks.



Excluding stock from waterways in the developed parts of Braemar Station is fair enough say the Mackenzies. They fenced off the block in the centre of this photo four years ago, but they say requiring it on tussock country running less than 1 hind/ha doesn't make environmental or economic sense.

The only consolation is that the government has indicated it is considering adjustments to its maps. MfE now has a form on its website where people can provide information about where large areas of steep land or high-altitude land have been included in the maps. The ministry says some steep country will have been included because the maps are based on the average contour of each property. It does not explain why high-altitude grazing land in native cover was included.

DINZ environmental stewardship manager Lindsay Fung encourages deer farmers to check if their property is classified as low slope on the MfE map: www.bit.ly/LowSlopeMap

"If your property has been incorrectly identified as low slope, or if you are low slope but do not farm intensively, email me at lindsay.fung@deernz.org"

He says there are also online feedback forms on the MfE website dealing with the issue, but some farmers may prefer to provide feedback through DINZ which will anonymise the data.

In 2017 the Mackenzies won the NZDFA Next Generation Award for outstanding performance across environmental, financial and social aspects of their farming business.

The award citation stated that they have a well-run and low footprint farm operating in an extremely challenging physical environment in the shadow of Mount Cook, where they face significant public scrutiny and local body regulation.

Mish and Julia have protected vulnerable hillsides, gullies and stream banks on their station without being driven by regulations. Now they fear that, unless the government amends its freshwater reforms, they will have to spend a small fortune on fencing that will have no environmental benefit.

Although Braemar Station is surrounded by spectacular alpine peaks – Aoraki/Mt Cook dominates the skyline to the west – the overall contour of most of the property is relatively gentle. Only 110 ha of the 680-ha deer block is in improved pastures. Most of the rest is in tussock, matagouri and other native cover and is only lightly grazed. Streams run clear from blocks in native cover.

Fencing the many small streams that run across the deer block, as well as the large blocks of native cover where cattle graze, would mean bulldozing fencelines. As Mish points out, this is likely to generate more sediment run-off than the stock would generate.

The station was originally a 27,000 hectare pastoral lease which, after tenure review in 2011, reduced in size to 4,100 ha.

Losing most of the property to the conservation estate meant the Mackenzies needed to intensify production on the remainder. From breeding their own stags they went to buying in stags with good maternal genetics. Encouraged by their membership of Mackenzie Advance Party, they subdivided the paddocks and improved pastures in the deer-fenced area.

Deer productivity increased. "But with higher stocking rates it became clear that the deer were now causing soil damage. So we decided to pull our finger out and do something. It was at a time



A rare kakī (black stilt), one of less than 200 surviving in the wild, takes flight at Braemar Station.

when water quality was becoming a hot topic, but we also want to look after the land,” Mish says.

“We started putting in fences where it was best for the environment. Four years ago we fenced off the first gully, a small face that was getting eroded, and also a biodiversity area outside the deer fenced area.

“Two years ago we hired Hugh Thomson, a local nurseryman, to plant the fenced-off areas in natives. We don’t know much about native plants, so it seemed sensible to hire someone who knows what he’s doing.”

The Braemar 680-ha deer block is normally grazed only by the deer. With 900 hinds, 100 stags, 300 young hinds and 50 young stags, the overall stocking rate is low. On the undeveloped country it will be less than 1 hind/ha.

“The tussock and matagouri blocks are great for fawning. The matagouri provides great cover. Farming at this altitude you can’t have too much shelter from wind, rain and snow,” Mish says.

“We take great care not to damage the cover on these blocks. Besides, if you put so much pressure on the deer that they started damaging the tussocks, they wouldn’t be performing well.”

Mish has always been interested in pastures. “Some varieties definitely work better than others with deer. It’s mainly to do with the timing of when they go to seed. We’ve been trialling large areas of clover and plantain to maximise growth rates during summer and autumn.”

Like many other farmers he’s finding it difficult to maintain the vigour of plantain beyond three years. “We’re aiming for five years, but we’re lucky if it lasts three years.”



The Mackenzies have been trialling a clover/plantain mix on the deer block.

High country planting challenges

When planting riparian areas in the high country, climate limits plant choices. Also, if you are in an outstanding natural landscape like Braemar Station, you can’t bang in exotics that might one day mar the stunning views.

The Mackenzies hired Hugh Thomson – a native plant specialist based at St Andrews, near Timaru – to plant out a small sidling with a stream at the bottom that had been badly damaged by deer feet.

Thomson told *Deer Industry News* that his plant selections for Braemar were influenced by plantings he had done on another property near Twizel.

“I selected native plants that I knew survived the 20 degree Twizel frosts. It was a pretty limited range.”

With 120-day winters, he says high country farmers have to be patient. It may take several years before they have an area of native vegetation they can take real pride in. But progress is being made.

Thomson did his plantings two years after the deer had been fenced out. In October 2020, two more years down the track, nearly every one of his plants has survived.

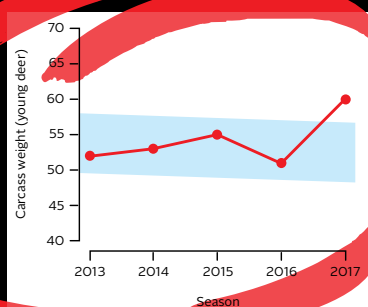
Plants chosen included:

- Carex albula*
- Mountain cottonwood/Tauhinu (*Ozothamnus vauvilliersii*)
- Mountain flax/wharariki (*Phormium cookianum*)
- Mountain ribbonwood (*Hoheria glabrata*)
- Mountain totara (*Podocarpus nivalis*)
- Prostrate kowhai (*Sophora prostrata*)
- Oleria odorata* (scented tree daisy)
- Silver tussock (*Poa cita*)
- Snow tussock (*Chionochloa rigida*)
- South Island toetoe (*Cortaderia richardii*) ■



Hamish Mackenzie in an area of successful native revegetation. Four years ago, this corner of Braemar was bare. Two years after planting in natives, tussocks are coming away but, with 120-day winters, native shrubs are taking their time.

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DP0717

Market nerves, environment and innovation feature at meeting

by Phil Stewart, *Deer Industry News* Editor

With the country's alert status back at Level One for the time being, the NZDFA was able to host a full in-person meeting for its branch chairs and new faces on 5–6 October.

NZDFA business

New Faces

For the 10th year running, the NZDFA welcomed a group of guests in the New Faces programme, with an introduction to leadership at the national level. The programme has borne fruit over the years with a number of people using this as a launch pad for leadership involvement at local and national level.

Andrew Cribb (Poverty Bay) said the P2P programme had helped reinvigorate branches like his. **Matt Carroll** (Central Regions) urged members to maintain the programme and “keep us new ones involved”. Also from Central Regions was **Graham Walker-Cudby**, who appreciated the chance to meet some of the industry's well-known faces. **Alison Talbot** (Bay of Plenty) liked the co-operation between DINZ and DFA, and programmes such as the parasite workshops that provide vital information to industry newcomers like her. “When I first got involved we were waiting for the hinds to grow some antler so we had plenty to learn!”

Josh Gill (Southland) said the Next Generation programme and Advance Parties each provide great opportunities for networking and learning. **Mark Tapley** (South Canterbury/North Otago) said it was good to see the DFA investing in younger farmers. “The close co-operation between DINZ and DFA on welfare matters was vital, he said. “Without it we wouldn't have a velvet industry.” **Jason Rentoul** (Marlborough) said he feels motivated to try new things at home every time he's attended an industry event. For **Andrew Laughton** (Otago), the accessibility of DINZ staff to DFA members is a great bonus. “They are very approachable.”

Branches

Three new branch chairs were welcomed: **Grant Hasse** (Elk and Wapiti Society), **Sean de Lacy** (Taihape-Ruapehu) and **Liz Love** (Bay of Plenty acting chair).

A number of branches reported lingering impacts from the severe drought last summer and autumn, overlaid with concerns about the low venison schedule and impending changes to rules around winter cropping, greenhouse gases and water quality. Declining membership has been an issue for some but not all branches.

On the positive side, many branches were grateful for the way P2P programmes, Next Generation and various workshops



New Faces 2020, from left: Josh Gill, Andrew Cribb, Alison Talbot, Matt Carroll, Mark Tapley, Graham Walker-Cudby, Andrew Laughton and Jason Rentoul.

were bringing people together and providing good information on issues like parasites. DINZ help with submissions to regional councils on environmental issues was appreciated.

Game estates

NZDFA agreed to provide some support for the game estate sector, which has been hit very hard by Covid-19 and the collapse of international tourism. The estates are seeking government support as part of the tourism industry affected by Covid. Because DINZ receives no direct funding from activities in the



NZDFA executive committee, from left: Justin Stevens, Karen Middelberg, Mark McCoard and John Somerville (chair).

trophy industry it can't be directly involved in any negotiations. However there is some crossover with velvet farming, with some also breeding for trophy. The NZDFA committed \$3,000 + GST towards the \$15,000–\$20,000 estimated costs for Blackland PR to put up a case for government support. It is expected that several organisations including the NZ Association of Game Estates and the NZ Taxidermy Association would also contribute.

Free membership?

The Waikato DFA put forward a proposal to create a new fees-free membership category for people who might be retired so they could still take part in the committee. This met a cool reception. The NZDFA constitution requires that committee members need to be fully paid up members. The meeting agreed the emphasis should be on a young industry of up-and-comers rather than those who were mainly interested in socialising.

Executive Committee chair John Somerville noted that: "A lot of what [committees] do might seem boring but it's deadly important. Being on a committee isn't a life sentence – you can actually learn a lot from the experience."

Eating well

Following the first day's proceedings, branch chairs repaired to the Te Wharewaka centre on Wellington's waterfront for an "extraordinary" meal. Your reporter could not attend but is reliably informed that even the staunchest trencherman (and women) among the branch chairs, new faces and guests struggled to do justice to the elaborate "venison on a platter" feast concocted by chef Graham Brown.

Good demand for healthy, high-quality food

DINZ chief executive **Innes Moffat** reflected that 12 months previously he had been awaiting news of his application for his job. Given what has happened to markets in the wake of Covid, he joked that "sometimes you need to be careful what you wish for".

While it had been a rough ride trying to restore demand for frozen venison and get the schedule "back where it belongs", Moffat said they were concentrating on the things that *could* be controlled.

On the positive side, there would always be demand for healthy, high-quality food. While changes were being forced on agriculture, there was also funding available to help farmers implement these. Moffat doesn't buy into the so-called urban–rural divide. "A lot of people like what we do. We should also remember we still have unimpeded access to most of our markets."

He listed seven key priorities for DINZ for the year ahead:

1. Maintaining the right to remove velvet and protect animal welfare.



Innes Moffat.

2. Acquiring new customers in China for venison, velvet and co-products.
3. Commissioning research through the new co-innovation model, with particular emphasis on farmer buy-in and directing research outcomes where they are needed.
4. Bringing the P2P Primary Growth Partnership to a strong conclusion in 2023 and understanding what lies beyond.
5. Implementation of useful farm environment plans.
6. Introduction of VelTrak, "a big project for a little organisation"
7. Launching a contestable fund for a "transformational" programme to support new market development and diversification, possibly with government support.

DINZ board comment

Board chair **Ian Walker** welcomed Nigel Jones (Alliance Group) to the board, and also acknowledged Rob Kidd (Duncan New Zealand) who has been taking part as a board observer.

On the Covid-19 response, Walker said the board was assessing risks to staff, the industry and stakeholders. It was being financially conservative but staying "operationally nimble" while communicating regularly and objectively.

The DINZ board had worked with other sector leaders on freshwater reforms and while a few gains had been made, dealing with the regulations was like "like a rolling maul".

Walker noted the potential harm to the industry of a recent television news item featuring distressing images of deer. He also commented on the "cult" of regenerative agriculture and the difficulty of finding science to support the practices. "We could argue we're already doing a lot of this!"

William Oliver noted the gains made since P2P started. He said communication was improving and the Deer Fact series was proving its worth. Use of animal health plans, professional advice and breeding values were all increasing and there were signs of better integration in the value chain with productivity indicators on the rise.

Nigel Jones said markets would return despite current volatility, but there would be a shift to more online retail. Research had shown that business travel and eating out – both affected by Covid – underpin the foodservice sector, Jones said.

Gerard Hickey said that venison hadn't lost market share. "It's just that people stopped eating out. We need to be patient."

Tony Cochrane said the main risks to industry revolved around animal welfare, biosecurity and compliance costs. He said DINZ's job was to help identify and manage those risks. "We need to keep working as a team."

Kris Orange said he'd like to see farm environment plans accessible online so people could keep them updated and add photos showing progress. Some of the rules in the freshwater reforms such as set planting dates for crops were plain wrong and needed work, he said. Talking to environment plan auditors, Orange had explained that deer had special needs – not being able to be backfenced on crop, for example. "The auditors told us that it doesn't matter if a change you make is small and doesn't cost much. The important thing is that it's in the plan and you show it's done."

Mark Harris said public perceptions were a big issue in this era of drones and smartphones, but "that's a good thing. We need to



Rob Kidd – enjoyed time as a DINZ board observer.

be doing the right thing and bringing any laggards up to speed. We also need to be telling our story effectively.”

Rob Kidd said he'd enjoyed his year as a board observer, despite having to do a lot of reading in the leadup to meetings (DINZ has been recently seeking interest for another observer). “I'll sad to leave the role!”

In a Q&A session, **Andrew Laughton** (New Face programme) observed that unlike bodies such as the NZ Rugby Union, NZ Cricket and Beef + Lamb NZ, the DINZ board was completely male. He wondered if there shouldn't be at least one or two women in the line-up. Ian Walker said the Selection and Appointments Panel and the Institute of Directors had been discussing diversity. “That opportunity [to appoint a female director] has yet to present itself. We're not biased.”

Sean de Lacy (Taihape-Ruapehu) raised the perennial issue of risk-sharing between breeders and finishers. He said 2020 had been especially hard with no signals from auctions or venison

marketers to help give the market a steer. Ian Walker said there had been attempts to share profits between breeders and finishers in various livestock sectors “but they always end in tears”.

Institute of Directors – more candidates please!

Kelly McGregor from the Institute of Directors picked up on the earlier comments about board diversity. “You're not alone with this issue, but the first step is willingness to change so you're part-way there.” Although the state sector has 50:50 gender balance on its boards, it's not been so easy finding female candidates for the DINZ board.



Kelly McGregor: diversity is about more than gender and ethnicity.

“There's no point putting a woman onto a board for the sake of it, but boards might need to be a bit more flexible, for example on the timing of meetings.” She said other boards try to do this and also to provide training and development to help new candidates.

A smart fence protector

TARAGATE ELECTRIC FENCE products has been a preferred choice of Kiwi farmers for over thirty years, supplying electric fencing and accessories both nationally and globally.

Founders Kerry and Barbara Powell were both farmers running an intensive grassland farming business of over 500 dairy cows on an all-pasture system. As a result, Taragate's products are developed with real farm experience, by farmers for farmers.

There are many outriggers on the market and very few of them really work. Taragate has been supplying their own fool proof outrigger, the “Space-Link”, for a number of years – a secure and unshorable product. Up until the SmartRigger and its longer cousin the SmartWand, the company has stayed away from other outriggers, believing none of them met the standard to work alongside their unique combination. That all changed with these unique products. With simplicity, durability and ingenuity at the heart of the SmartRigger, SmartWand range, it complements both Taragate's products and its company ethos.

Deer farming presents an often different and unique set of challenges for fencing design and Taragate is proud to be offering this new and innovative solution.

The easy-install SmartWand Deer Fence Protector has been extensively trialled on farms – with considerable positive customer

feedback. Grahame Cudby from Manakau thinks they are excellent and really come into their own during the roar. The circular photograph in our advertisement in this magazine is taken after stock had been in that particular area for three months during the roar, illustrating clearly how effective the SmartWand is during this testing time.

The design and functionality of the SmartWand is simple and effective. The wand and spring are manufactured as one piece from 4mm galvanised wire. This is electrified by standard high tensile fence wire running close to the fence line, minimising any antler interference. The entire assembly is held by a unique SmartInsulator which is securely locked down with a 75mm industrial screw. As our website videos show, stock are completely discouraged from pacing along the fence line, a problem deer farmers are all too familiar with.

With a RRP of under \$6.00 per unit, which includes the SmartWand, SmartInsulator and industrial screw, this patented system is exclusive to Taragate.

For more information about getting this product installed on your farm before the next roar, please visit our website

www.taragate.co.nz or give us a call on 0800 82 72 42 ■

• Article supplied

She noted that diversity also refers to age and professional background, not just gender and ethnicity.

McGregor has been working with the Selection and Appointments Panel (SAP) for six years and noted the industry needs to work hard to get more candidates interested in standing for board positions. "Ideally you need more than one candidate every time there is a vacancy."

An independent report, *Gender Representation in the Meat Sector 2020*, commissioned by global network Meat Business Women, shows women are under-represented at every level above junior positions, holding just 14 percent of board-level director roles and only five percent of chief executive roles.

"Companies which have executive committees with female membership of at least 33 percent have a net profit margin over ten times greater than those companies with no women at that level. Fundamentally, businesses with diverse workforces are more profitable and have better share prices," says Meat Business Women founder Laura Ryan.

- Nominations for the DINZ board's producer-appointed vacancy that will occur when William Oliver retires next year, close on **31 March 2021**.

Selling velvet antler in a changed world

DINZ manager – markets, **Rhys Griffiths** gave a candid assessment of velvet market conditions in a Covid-19-affected world.

He said swift action by the Chinese government in response

to the pandemic created some jitters for New Zealand exporters, but working constructively with their Ministry of Agriculture and Rural Affairs and New Zealand's Ministry for Primary Industries, access for most deer products was ultimately protected.

The economic ripples from Covid are spread wide, Griffiths explained. "Nothing is immune from the effects of Covid." On the positive side, demand and consumption patterns were good for New Zealand health food products in Asia. Velvet products highlighting immune function and anti-fatigue properties are well placed in the current environment. Although marketers have to be careful not to make human health advertising claims without scientific backing, there is an immune function study getting underway, Griffiths said (see article on page 6).

There are challenges. For example, Chinese tourists haven't been able to visit the high-end retail stores in Korea, while there were logistical problems with shifting both freight and finance. Managing Covid risks along the supply chain could disrupt normal operations too. These new challenges underlined just how important the new VelTrak system for velvet traceability would be, he said. (See more on VelTrak on page 28.)

While it was "awesome" that velvet volumes had doubled and values tripled in 8 years, this created pressures.

Nonetheless companies were still launching new products in our main markets through 2020 and the healthy food segment was still performing strongly, Griffiths said. "Our markets really respected New Zealand's 'go hard, go early' Covid strategy. It reinforces the respect that Asian consumers have for safe and healthy New Zealand food products."



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- Electrified by hot wire running close to fenceline – held by unique SmartInsulator™
- Easy secure install – insulator locked down with industrial screw
- Super tough double shield insulator – great tracking
- Wand extends one metre out from fence post
- Protect your deer fence, netting & posts
- Prevent deer from pacing along fenceline
- 10 year warranty on SmartInsulator™
- See our website for installation videos and on farm trials



Energised Wands creating an extra buffer to protect your fence and land

Energised wire close to fence

No Extra connections needed

NZ Patent: 747855

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While retail sales in our markets and visits to Oriental medicine doctors had initially dropped, online channels were up significantly and there were recent signs of a retail bounce-back at the premium end.

Griffiths reminded delegates that the tariff on processed velvet into Korea is still being chipped away and will be down from 20 percent to 10.6 percent by 1 January 2021. In addition, China was still resisting velvet importation, legal or not, from Russia. The hard work we did a couple of years ago implementing the Regulated Control Scheme for Velvet (RCS) is responsible for continued access and premium positioning, and that advantage will be further strengthened by VelTrak.

Progress was being made in China, and the opening of 26 KGC stores in Taiwan was creating further opportunities for New Zealand velvet (see *Deer Industry News* October/November 2020, page 12).

For all the good signs, Griffiths said there has still been a sapping of confidence from the traditional velvet importers due to Covid-19, which will impact prices paid to producers this season.

Some “virtual tours” of the markets in lieu of the real thing were keeping links strong and helping boost confidence. These contacts are being followed up on the ground by NZ Trade and Enterprise staff working in China and South Korea.

This work is being supported by the velvet industry adopting the “Made with Care” umbrella branding that is being used for New Zealand food and beverage exporters, promoting safety and sustainability.

Griffiths said there is still potential for disruption to trade in Asian markets He had met with New Zealand velvet processors in September and acknowledged their concerns on the eve of the new season. However he said being transparent and acting with confidence and good planning would help.

He acknowledged there is a fine line between over-optimism and being too pessimistic, generating self-fulfilling prophesies.



Retail sales for velvet products at the premium end are starting to bounce back.



“I can’t offer certainty but I can say we’re well set up and doing the right things.” (See page 6 for an update report on velvet markets.)

VelTrak on track for next season

The velvet tags including a UHF chip you’ll start using in the 2021 season will superficially resemble the blue “wristband” style tags used for the past couple of years, but there will be some significant differences.

VelTrak will take traceability to a new level and keep our velvet products up with ever-increasing market demands for product safety and integrity. DINZ science and policy manager **Catharine Sayer** has been managing the programme.

She explained that rather than using barcodes to replace the old unfit-for-purpose plastic cable tie tags, it was decided to go all in for the ultra high frequency(UHF) RFID technology that has now become commonplace for product tracking and is available at a reasonable cost.

There will be an intensive education campaign to prepare the industry for the rollout of VelTrak in August next year, but Sayer kicked things off with an overview. Here’s a summary:

Why change?

VelTrak will protect the velvet industry by enhancing the ability to trace individual sticks to a farm or consignment in the event of a biosecurity or food safety scare. This capacity is expected by our markets now, especially health food companies that are using more of our product. VelTrak will also help protect the position of New Zealand velvet as a premium product attracting top dollar.

VelTrak will reduce the risk of substitution of our product with inferior product during the journey of velvet from farm to final destination.



What is it?

VelTrak is a cloud-based tracing system that follows each stick of velvet through its entire journey. It creates a complete electronic archive of food safety records and an electronic record of velvet antler product movements. The records are confidential to each person in the supply chain and their immediate supplier and customer (“one-up, one-down traceability”).

Tag data will be stored online and be available to producers through their VelTrak accounts, accessed through a website. Paper records will no longer be needed.

Tags will be allocated by vet practices to individual producers and, once applied to velvet sticks and scanned by velvet buyers, will enable creation of an electronic Velvet Status Declaration (eVSD) for farmers to confirm online – no paper required.

How do the tags work?

They’ll be applied the same way as the current tags (not too tight!). They won’t absorb blood and the RFID chip won’t be exposed as it’s sandwiched between plastic layers. The tags are likely to be manufactured in Australia. Each tag has a unique barcode number and an associated unique UHF RFID chip number. Supply chain data about that tag is captured whenever movement data about it is recorded. The data is not held on the tag itself but on an online record for that tag.

Who does the scanning?

Velvet buyers are responsible for scanning the tags. The UHF RFID technology means that a crate of velvet sticks or piles of bagged velvet can be accurately scanned in one go, even if they are sourced from different farms. Farmers don’t have to buy a scanner or scan tags although some might choose to use the barcodes for their own recording purposes. Bar code scanners can either be downloaded as a free app for your cell phone or a purpose-built bar code scanner can be bought for about \$100. In fact the vet practices will maintain their distribution of tags and records based on the bar code sequence on the tags or the full packet, much as is done in the current system.



Velvet buyers will pay for and operate handheld scanners like these, which will be capable of capturing data for a whole box of velvet in one go. Packhouses may prefer to use a fixed scanning apparatus.



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*Courtesy of Malcolm Cane

The eVSD

Once the tags are scanned, a draft eVSD will be generated and the farmer emailed a notification that the draft is awaiting their approval online through the VelTrak site. A producer who isn't comfortable working an online system or may not have internet access, or email, can appoint a trusted secondary user to their VelTrak account to do the verification on their behalf. This person must be familiar with the consignment.

For farmers whose velvet is picked up by buyers or agents on farm, if there is on-site wi-fi the buyer can choose to complete all VSD steps with you at the time of pick-up. Otherwise the buyer can create and send the VSD later.

Buyers will be also be creating electronic Agent VSDs on VelTrak.

Customer access

Overseas buyers can access quality assurance information by manually entering barcode numbers from individual sticks into an online tag checker tool. If a VSD has been raised successfully by scanning, the tool will confirm that the stick has met QA requirements.

Who pays?

DINZ is investing about \$450,000 in developing the system and providing awareness and associated training. Once the system is operating DINZ will continue to fund the allocation of barcodes, web hosting fees, user support and future system upgrades.

At this point its intended **velvet producers** will pay for *part* of the tag costs. The current chipless tags cost about \$0.19c each and DINZ will continue to fund tags to this level when VelTrak starts. The new VelTrak tags will be sold to farmers through veterinarians. DINZ will be announcing a recommended retail price for VelTrak tags. Allowing for the DINZ part funding and vets' handling costs, VelTrak tags are estimated to be sold to farmers for \$0.49c each at the point of purchase.

Buyers will carry the ongoing costs of scanning (the scanners cost about \$4,000–\$5,000).

When?

- Until April 2021: Ongoing awareness programme
- May 2021: VelTrak registration opens.
- August 2021: VelTrak rollout begins.
- Ongoing: Software development, testing and training and support (farmers with any questions should contact their local DFA Executive Committee member or branch chair, or the DINZ office).

What to do now?

- Talk to your buyer about where they envisage doing the scanning – at your farm or at their premises.
- Think about who in your business will be responsible for VelTrak.
- Keep an eye out for further information about registration and training.

Rethinking venison strategies

DINZ venison marketing manager **Nick Taylor** led a discussion on activities and prospects during this challenging year for venison. In the United States and Germany there had been signs of improvement in the foodservice market over the northern hemisphere summer but the situation was fast evolving. By late November, several weeks after Taylor's presentation at the branch chairs' meeting, a further surge in Covid-19 cases in Europe and North America was putting even greater pressure on venison sales in these markets.

Taylor said all market activities were under scrutiny. One move has been to develop the US retail sector. "Even when foodservice comes back we want to maintain a presence in retail," he said. DINZ and P2P funding will be supporting company activity to promote sales of venison in supermarkets in the United States. Another area of potential was meal kits and further work to develop this area would occur in 2021.

Taylor said venison sales in China continued to grow and all companies were keen to keep developing this market. DINZ is working with NZ Trade and Enterprise to incorporate venison into food and beverage promotions in restaurants in China during November's "New Zealand Week".

Two New Zealand exporters and their importers were keen to continue with Cervena® in Europe, targeting both foodservice and retail promotion. This would continue with assistance from DINZ, but be removed from the P2P programme, Taylor said.

Companies Zoom in

Representatives from the five main venison marketing companies joined the meeting via Zoom.

Peter Robinson, Silver Fern Farms' group sales manager, said high-end dining had been hit the hardest and many restaurants will never reopen. While chilled product had been moving pleasingly well by early October it was too early to say what would happen with frozen product later in the year.

Robinson said Silver Fern Farms was working hard to diversify markets and build online and retail sales. He said there had been good progress in New Zealand this year, with a 25 percent bump in retail sales compared with pre-Covid times and a recent 50 percent increase in online sales. There had been a 70 percent growth in US retail sales of venison, although from a small base.

Toni Frost, Firstlight's general manager sales and supply, said it was encouraging that there was still demand for chilled product from Germany, albeit at subdued prices. (Frost's former position as general manager venison at Firstlight has been filled by Matt Gibson.)

Jared Sandri, marketing manager for Duncan New Zealand said the company was trying to promote venison as an everyday option and not just for special occasions.

Mountain River Venison's **John Sadler** said lower prices did open up opportunities in retail, but there was a risk of losing those gains when the schedule recovered. Product was still moving into traditional markets and he reported that sales into their earliest European market – Switzerland – were so far matching last year. "But there are still restrictions [on restaurants' capacity and time] in Europe so it's too early to say much."



Nick Taylor (right) chairs a Zoom discussion with venison marketing company executives at the branch chairs' meeting.

He said the petfood market had been through a bubble and they weren't keen to pursue that for now. He added that the wild game market in Europe was "terrible" at the moment.

In response to a question on antibiotic-free product, Toni Frost said that was now expected by customers as a matter of course. Alliance Group sales manager, export, **Terry O'Connell** said they had seen a 35 percent increase in sales of lamb that was guaranteed antibiotic and GMO free.

Sadler said that with pork prices having doubled in China, venison did not seem so expensive, and there was a growing market there, especially for manufacturing grade products.

Robinson agreed that there was still huge potential for venison in China, although there were still perception hurdles to overcome.

Frost said Firstlight was also keen to grow its venison business in China, which is a destination for a lot of the company's Wagyu beef. Speaking generally she agreed that markets need to be diversified. Creating new exciting channels was putting venison directly into consumers' hands.

O'Connell said Alliance had enjoyed some success getting venison into Hello Fresh packs in the United Kingdom.

Another question for the companies concerned the risks of a glut of venison onto the market from unwanted stags in the struggling trophy sector. Alliance Group's **Katrina Allan** said if that happened the product would need to be clearly differentiated to protect the integrity of existing brands. John Sadler asked that companies be given a heads-up if there was to be a sudden increase in cull stags coming through.

There were mixed thoughts on whether marketers should pursue more sales of low-value products such as mince in keeping with the tough times – especially given that only 10 percent of a carcass is premium cuts. While consumers are pursuing value, the marketers generally agreed that the same people also like high-quality products that are safe and ethically produced.

Being forced to choose between foodservice or retail would be "a nice problem to have," Terry O'Connell concluded.

See page 5 for an update report on venison markets.

Passion2Profit – how we're doing and where next

DINZ farm performance manager **Phil McKenzie** said the P2P programme and strong partnership between DINZ and NZDFA is highly envied in primary industry circles. Funding is due to wrap up in 2023, so it was time to think about completing what was started before moving the P2P programme on to other things. MPI had been an important partner throughout the process, he added.

After an initial farm-side focus on improved productivity, the programme had successfully brought in environmental stewardship. Its overall strength lay in the strong linkages between companies marketing premium venison and, through assurance programmes, farmers supporting those efforts by efficiently growing what the markets needed.

He said the peer-to-peer learning that's underpinned the programme is being imitated by others. P2P was also an important channel for getting science innovation working at farm level and McKenzie said this relationship should keep working long after the programme itself is finished.

Branch chairs reflected on what benefits they'd seen coming out of P2P. It was a long list and included a few intangibles that probably weren't envisaged at the beginning. Examples included:

- mutual support and trust during a tough drought
- information available in the Deer Fact series
- work on developing FEPs
- Cervena promotion in Europe
- a "brilliant" workshop held at Gallagher in Hamilton
- parasitology workshops
- the Deer Health Review booklet
- bringing enthusiastic industry newcomers into the Advance Party fold
- overcoming social isolation and promoting mental health in rural communities.

McKenzie said it was important to finish the current P2P project strongly and achieve what we'd set out to do before moving on to the next big thing. Whatever followed would be a collaborative design process that leverages and continues what has worked well in P2P.

He suggested the work the Primary Sector Council was doing on Te Taiao programme – "Fit for a better world" – could provide a useful springboard for deer industry initiatives in the post-P2P era (see <https://fitforabetterworld.org.nz>).

Environment: one farmer's experience

Lindsay Fung, DINZ environmental stewardship manager, gave branch chairs an overview of activity at central and local government level (see *Deer Industry News* August/September 2020, page 10 for more detail).

He explained the deer industry is committed to doing the right thing by the environment and having people recognise this. As a result of this recognition it was hoped that reasonable rules for environmental protection would be put in place.

Overall, relationships at regional council level were positive, although some regions were more fraught than others. Initiatives such as auditor training days and winter grazing workshops had been useful.

Doing an FEP and getting consented

The realities of producing a farm environment plan and dealing with the regional council were brought to life by **Stu Stokes**. He and wife Julie run deer and cattle on two blocks at Sheffield near the Canterbury foothills (see *Deer Industry News* April/May 2019 page 22 for a farm profile).

Stokes told the meeting that because he had previously been wintering 1,000 dairy cows, their base N loss level was a fairly generous 58kg/ha. He said this gave them some room to move in setting up an FEP, which they were required to do because their operation crossed several thresholds – for example, their location, winter cropping and irrigation.



Waterway on Stu Stokes' farm and (inset) Stokes speaking at the branch chairs' meeting.

Environment Canterbury picked the Stokes' farm as a test bed for drystock farms that require a consent to farm and reduce nitrogen leaching. Stokes said the exercise made him realise how fluid some of the calculations could be. He said the N-loss figure for their blocks of 38–40kg/ha spat out by Overseer was “not very accurate”. The system had been designed for maize and wheat cropping but didn't cope so well with the intricacies of livestock farming. For example, the system is unsure how to deal with lucerne and punishes you because it assumes N is being lost when the plants are dormant. “If I count in the grass and plantain that's also grown in these paddocks the losses are seen as a lot less.”

Their FEP was put together with the help of Janet Gregory (with Landcare Trust at the time), whose time would have been worth north of \$3,000. Stokes said it contained a lot of maps and highlighted features such as offal holes and waterways. The plan identifies a base level and a goal of reducing nutrient losses by 5 percent by 2025.

The Overseer budget cost \$4,000 and ECan's resource consent done on the basis of the FEP cost \$5,000 – knocked down from an initial bill of \$6k. Beyond that they are required to pay \$1,500–\$2,500 for an on-farm audit. If they achieve an 'A' rating they can wait 3 years between audits. Stokes is expecting a 'B' which would mean a 2-yearly return visit. Their farm has been used for auditor training days, which the Stokes were happy to help with, although he noted that “they are not there to advise you”.

“I'm hoping the auditors will identify areas where I can make improvements. I want it to be honest.”

In addition to all of the above costs, Stokes said they have invested about \$70,000 in environmental mitigation work over the past year. It's been an expensive process but he's positive about it.

Climate Change Commission

Phil Wiles from the Climate Change Commission (CCC) told branch chairs the commission was set up under the Climate Change Response (Zero Carbon) Amendment Act in 2019. Their background document explains they “deal in the facts about climate change and it's our intent to create positive change for Aotearoa and the world. Our role is to provide guidance on how Aotearoa can transition to a low emissions and climate-resilient economy.” That included working out how to balance emissions reductions across all sectors – not just agriculture.

There are four key elements to their work:



Phil Wiles, Climate Change Commission.

1. Long-term emissions targets. These include getting all long-lived greenhouse gases except biogenic methane to net zero by 2050 and achieving a 24–47 percent reduction on 2017 levels in biogenic methane by 2050. The interim methane reduction target is 10 percent by 2030.
2. Setting a series of six emissions budgets to get us to 2050. There will be budgets planned for 15 years ahead at any time, which will give some medium-term certainty about what changes are coming up.
3. Adaptation to climate changes and identifying risks, e.g. sea level rise, changing rainfall patterns.
4. Setting up the CCC, which is independent and will provide evidence-based advice.

Wiles said the CCC is currently putting together its first package of advice to the Government, to be delivered by May next year.

He said the commission was keen to hear New Zealanders' views on both the impacts and opportunities arising from the transition to a low emissions economy. They will be looking at projected emissions as well as strategies for reducing them. This

will span things like efficiencies in the transport sector as well as emissions reductions in agriculture. The Government won't be bound to accept the CCC's advice, but if they don't, they are required under the Act to explain why – something that gives the commission's advice more heft than the Parliamentary Commissioner for the Environment (PCE). The Government has ignored some PCE reports that were actually quite favourable to agriculture. If the Government ignored the CCC's advice it was up to the public to hold them to account, Wiles said.

Formal consultation by the CCC starts in February 2021 and after their advice is delivered in May 2021 an emissions reduction plan will be developed by the end of 2021 and policies formulated around that. Ongoing the CCC will monitor and report progress.

Wiles said lessons had been learnt from the 1980s when needed economic reforms were implemented too quickly and inflicted much pain in some sectors.

There was a good Q+A session after the presentation.

Will riparian plantings finally be allowed in emissions calculations for farms under He Waka Eke Noa – the primary sector partnership to help farmers measure, manage and reduce emissions?

The answer wasn't simple. Wiles said the aim was to get long-lived gases (CO₂, nitrous oxide) balanced by 2050 on a national level, not at individual farm level, where emissions may not be net zero. He noted that agriculture still accounted for 20 percent of long-lived gas emissions through nitrous oxide. Methane was a different gas and is treated separately, as it should be. (The CCC has also been asked for advice on strategies for methane reductions in the

second half of the 21st century.)

DINZ's Lindsay Fung confirmed that all forms of carbon storage and liabilities were on the table with He Waka Eke Noa discussions, including riparian plantings, soil carbon and so on. He said there could be scope for people to "club together" to aggregate their carbon assets and liabilities. For example, breeders and finishers could work together. "Breeding properties are likely to have more woody vegetation."

Wiles noted that small areas like riparian plantings aren't recognised in the ETS because they aren't recognised internationally, a legacy of the 1990 baseline levels, when satellite technology wasn't up to measuring small plots of vegetation.

"Under the Paris agreement we are not so tied to that 1990 baseline, which might make it easier to bring in smaller areas of vegetation."

Wiles also commented that while it will be important for farms to be able to take small tree lots into emissions accounting, they also needed to account for trees that are removed (e.g. for irrigation). Commenting on the large areas of trees in the DoC estate, Wiles said they remove about 2 million tonnes of carbon a year from the atmosphere (our total gross emissions are about 80 million tonnes).

If we reduced production to lower our agricultural emissions, won't the slack be taken up overseas by high emitters so we are worse off overall?

Wiles said that's not necessarily the case, but also that the Zero Carbon bill did require that global impacts of our measures be taken into account. "The markets we sell into – our competitors

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there have a similar carbon footprint to us. If we reduce production for those markets it won't necessarily be high-emissions producers that pick it up."

How good is our greenhouse gas information?

New Zealand has a good system for calculating agricultural emissions based on animal populations, production levels and dry matter consumed, Wiles said. We were ahead of other countries in that respect, which was a good reason to help them. "As other countries reduce their emissions from other sectors like transport and energy, agricultural emissions will become more important to them, which is why they will be able to start looking more closely at what we do."

Why can't grass be included?

Yes, grass does sequester some CO₂, but it passes through the system very quickly. Some goes into product (velvet, venison) and some is turned into methane (CH₄). Wiles said the methane that comes out is accounted for, but not the CO₂ that it eventually breaks down to. The CO₂ that the animal breathes out is not accounted for, as it's offset by the carbon in the grass that was eaten – it's seen as a closed circuit. "What we do count is that relatively short period when a carbon atom goes into a methane molecule."

Doesn't the Paris agreement recognise food production as essential?

Yes it does, although availability of food in places like sub-Saharan Africa was more what was had in mind.

Essential Freshwater discussion

Not surprisingly, the Essential Freshwater regulations have caused anxiety. DINZ producer manager **Tony Pearce** introduced a discussion about the expected impacts.

He noted that deer weren't such a big welfare concern for the Winter Grazing Action Group, particularly because hinds weren't in advanced pregnancy during the winter grazing period. Interestingly none of the complaints made last year about winter grazing in Southland met the threshold for an animal welfare prosecution, something not well reported.

Phil McKenzie, DINZ farm performance manager, said people at winter grazing workshops last year learnt a lot about improved practices. He said that while there was still plenty to be concerned about in the freshwater reforms, a lot of the worst proposals didn't make it across the line, thanks to representations from DINZ and others.

Lindsay Fung said the deer industry was in a relatively good position on the freshwater front and had a good base to build on. He commented that a lot of regional councils are concerned about the practicalities of enforcing the reforms. He said it was important to keep up a good dialogue with the councils.

Taking officials onto farms to look at the realities of freshwater management and stock exclusion requirements was a great investment, he said.

Leith Chick (Waipa) said it was essential to stay connected with local officials. "Stay positive," he advised. "They are listening. If it gets too tough we can push back." Chick said a problem was dairy



DINZ farm performance manager Phil McKenzie.

conversions on marginal land such as river flats which turned into "pigsties". He added that for some areas there are alternatives to winter cropping.

Richard Currie (Otago) said winter cropping was essential in Otago and Southland. It was impossible to avoid stock making footprints and mud, and it was important to show that it's actually better environmentally to concentrate the impact into a small area rather than messing up a whole farm and going into spring with no covers. He urged a cross-sector group to help convey that message better.

Graham Peck (South Canterbury) was concerned that it's hard to know what waterways need fencing because it's difficult to measure slopes. He said it was wrong that MPI should be dictating when crops are sown. It was pointed out that the date limits were designed to fit in with resource consenting requirements rather than seasonal needs of farms.

Claire Parkes (Nelson) said rules about slope could have perverse outcomes and more flexibility was needed. "Our flats would be worse for crop than some of the hill areas."

John Somerville (Southland) urged farmers to take plenty of photos to document what they were doing on farm and progress made.

"Photos of what good practice looks like are really helpful to me when I'm talking to regional councils," Lindsay Fung said.

He said it was useful to know about the practicalities of new rules while implementation plans were being put together. Phil McKenzie said DINZ was collating examples of good practice.

Somerville urged people to accept the rules aren't going to go away or change. "It's best to think ahead and save yourself some pain."

Karen Middelberg (Hawke's Bay) noted that farmers wouldn't be expected to carry out all the necessary work at once. The key was to have a plan and show progress.

Transformational changes for Deer Select

Sharon McIntyre, DINZ Deer Select manager, outlined some of the recent and upcoming changes for the genetic recording system, which she said has been improving continuously.

Currently there is plenty of chatter about the newest eBV, CARLA, and rightly so. (There is a Deer Fact enclosed for deer farmers in this issue on how to use CARLA to select for improved resistance to internal parasites.)

McIntyre said farmers would be able to use selection for high CARLA levels as *part of a good parasite management programme*. She noted that it is possible to get high-CARLA animals across a range of eBVs for other traits such as growth. “There are high CARLA BV animals across the range of growth BVs, and in both velvet and venison animals – to suit any production system. With CARLA you *can* have your cake and eat it too.”

A key question was “what is a good CARLA number?” McIntyre said for red deer anything over 20 is good, over 50 is very good and over 100 is “really high”. (There’s more in the Deer Fact on this.)

While Deer Select is now well established in the deer genetics landscape, it still needs to continuously improve. A review of the whole system was requested by the DINZ board and commissioned from AbacusBio.

The review reported that Deer Select seems to be generating good value for the industry as it is a low-cost “clip-on” to the existing sheep genetics system. The rate of genetic gain for the industry of an average 8.4 percent per annum was similar to the rate for sheep. The Deer Progeny Test (DPT) has played a big part in this. It was a powerful in coordinating the different studs and breeds, increasing the range of traits recorded and improving recording practices. Rates of genetic gain were four times higher than prior to the DPT and the BVs are now much more reliable.

In addition to CARLA there was a fertility BV coming on stream in the upcoming season, McIntyre reported. She said it’s important for the industry not to sacrifice traits such as reproduction in the pursuit of other productivity gains such as growth – something that has affected the dairy industry.

Uptake by commercial farmers remains a challenge but overall McIntyre was happy the review gave Deer Select a big tick.

The next big thing – there are actually several big things coming up – is across-breed evaluation. It’s technically challenging but has long been sought after. However traits like CARLA and reproduction are already set up for across-breed evaluation and others are set to follow.

One thing that helps convince people of the value of genetic gains is the economic indexes and AbacusBio is setting up a model that will be able to put a value on units of genetic worth – for each kg on weaning weight, for example. These will be updated with new weightings and across-breed data, McIntyre said. “To connect the red and wapiti, we have to have genetic connections at least every two years, where a current wapiti sire is also used over recorded red hinds and progeny recorded. I hope to have this ready for delivery in time for next year’s selling season.”

McIntyre said this will be effectively Deer Select Mk2. At the same time the system will be moving to a new computer platform provided by nProve.nz. It will be more functional than the existing system and breeders will be able to interrogate their own data directly. In a separate stream of genomics work, information on percent share of ancestor DNA will become more accurate. (Interestingly, individuals don’t always inherit 25 percent of a grandparent’s DNA – the share actually ranges between 15–37 percent.) “It means we’ll be able to estimate BVs with much greater accuracy,” she said. The inclusion of genomics is not expected till about 2022.

McIntyre said velvet heritability had been recalculated using 40,000 2-year-old velvet records from 1,300 sires. Heritability was found to be 50 percent – in line with genomic models and not

the 80 percent that’s long been quoted for the trait. “With such a large data set we can have high confidence in this figure.”

She said the only velvet BVs available to date are for weight at 2 years and mature velvet weight, but it was also hoped to develop BVs for traits like quality and style.

The “BV in Practice” programme that’s been running on three commercial venison farms this year with cohorts of 2019-born progeny born to sires about 10kg apart for the W12 BV has been progressing well, with the impact of growth BVs showing up clearly from weaning through to slaughter (see update on page 9).

AgResearch’s **Jamie Ward** finished with a quick summary of a seasonality of growth study at Invermay, where progeny of two wapiti and five red sires are being tracked from weaning through to slaughter. This work also forms part of the efforts to create proper across-breed evaluation for Deer Select. The data so far is showing some interesting variations with different weight gain patterns, especially during the winter months. The lines on the graph are showing good separation as the year progresses, but the seasonality shows there is quite a variation in the way progeny from different sires express their growth genes over time.

Quality assurance update

The number of deer farms might have declined in recent years but there are a lot more deer sheds out there than we thought. That’s one of the conclusions reported by DINZ quality assurance manager John Tacon. “There are some very flash sheds out there now,” he said.

When the Regulated Control Scheme (RCS) was introduced three years ago it was estimated 900 sheds would need to be audited over the first three years. So far 1,183 have been identified and new data is still coming in.

Tacon said the nine auditors had done a fantastic job over the first three years of the scheme. By early October 899 sheds had been audited and passed with just 62 left to do. So far, 103 have opted out of the scheme (usually because a farm has been sold or they are out of deer).

Another 112 had been required to take further action before they could be signed off and seven were non-compliant. Some of these are past their due dates and Tacon urged farmers to inform their auditor once required improvements had been done so they could come back and finish the process.

Following the initial round of RCS audits, the Ministry for Primary Industries can come to do compliance audits at any time. “These can be very strict!” he warned.

He reminded branch chairs that anyone who opts out of the RCS or fails an audit can no longer get tags or fill out a VSD. In addition, if a veterinarian removes velvet on welfare grounds, the farmer cannot be issued with a tag or VSD, so the velvet would be blocked from export.

Looking at welfare issues, he said there had only been seven notifications involving deer being transported in three years. And for all livestock welfare infringements for 2020, only one of 663 involved deer.

The numbers have not been quite so good for NAIT compliance, however, with 180 of 900 infringements involving deer. Nearly all of these were for failure to register NAIT animals.

Tacon also noted that more evidence of incorrect velvetting is turning up at deer plants. “Some of these have been coming

from places that have been velveting for over 20 years – perhaps someone new has taken over their velveting,” he suggested.

He said DINZ and NVSB were currently finalising details of some research into factors affecting blood loss after velveting.

Innovation and research

There's been a fundamental shift in the governance of deer research and a lot of new acronyms to get used to, but the two main partners – DINZ and AgResearch – are “still besties” after decades of fruitful cooperation.

DINZ science and policy manager Catharine Sayer and



Catharine Sayer, science and policy manager and Jamie Ward, AgResearch farm systems scientist.

AgResearch farm systems scientist Jamie Ward took branch chairs through the new co-innovation model for research which has democratised the decision making around problem solving and delivery of research to end users.

Ward explained the government's annual investment in deer research had stayed at about \$1.33m since 2005. The new co-innovation model, involving broad teams of stakeholders in four areas, will deliver results in solving complex problems better than formal company structures, he said. There was a new memorandum of understanding between DINZ and AgResearch which covered how the two work together.

It's still a long-term relationship, Sayer said. Both have an interest in good outcomes, but the relationship is flexible enough to allow research to be done by another provider when AgResearch isn't the best fit.

Ward said the model will mean a more strategic and agile approach where knowledge gaps are more easily identified and addressed.

The members of the four stakeholder groups, or innovation steering groups, are still “getting to know each other” and developing the trust and teamwork necessary to deliver good results. Ward said the old “Hitting Targets” programme dealt with 12-month blocks, which could be a bit inflexible.

The innovation steering groups, which all overlap to a degree, are:

- On farm
- Post farm
- Environment
- Improved breeding

Sayer explained that under the old model, work to support



adoption of research was a bit patchy. Project lifecycles now have a circular design (see diagram) meaning a continuous process where uptake is monitored and measured. She said groups like Advance Parties currently play a role in delivery of research, and the system needs to adapt to different vehicles to get the research working on farms.

Each group has two co-leaders, one each from the deer industry and AgResearch (“a bit like the Green Party” as one wag observed). DINZ leaders are expected to inform their AgResearch counterparts about industry developments and relevant industry events, while AgResearch science leaders are expected to tell their DINZ counterparts about science developments and opportunities and invite them to wider science events.

The Innovation Steering Groups have 4–7 industry members to apply diversified experience and thinking to research projects right throughout their life. Sayer noted that people from the industry need to be prioritising benefits for the whole industry, not just their part of it.

The post-farm group has a breeder, a velvet company, a venison company and three farmers including a large corporate. This group had started off by looking at work on immune function and ways of extracting more value from skins.

Jamie Ward said there was now a more holistic approach, which widened the focus and helped plug gaps. The former VARNZ, for example, had concentrated on the product but not really looked much at the animal and how velvet was grown.

He said working out how research would be delivered right at the start of a project was a very important change.

The funding for deer research from AgResearch would come through its Strategic Science Investment Fund into (Deer) “Science 4 Success” or S4S, where DINZ will put most of its own dedicated research dollars. Ward pointed out that there is money in other existing funding pools such as the Pastoral Greenhouse Gas consortium and former Sustainable Farming Fund which will be targeted to increase research delivery for the deer industry, giving more flexibility and research diversity for industry.

Ward and Sayer rattled through some of the current research programmes under each of the four innovation steering groups. For example, work lined up under the S4S On-Farm group at various stages and project lifespans includes:

- Matching seasonality and behaviour to landscapes
- Internal parasite lifecycles
- Lungworm super-shedders
- Penside lungworm diagnostics
- North Island deer health issues.

In another example from the S4S Improved Breeding group, Ward explained how some essential Deer Select work on across-breed connectedness was able to be accommodated into AgResearch’s existing breeding project because it fitted in with the existing science being done. With the new innovation model there will be room to be a lot more strategic about getting work like this planned and delivered.

Wrapping up the session, Sayer said building research capability, planning succession for those specialists nearing retirement and attracting people to work in the deer research niche were important to ensure the planned work could continue. To that end, there are two post-doctoral scientists, two PhD candidates, a Masters student and three student interns working in S4S over the coming year.

DeerPRO-gress

While you can never afford to turn your back on Johnes, the disease appears to have loosened its grip somewhat on the deer industry.

DeerPRO manager **Solis Norton** reported that monitoring at processing plants had picked up a gradual decline in Johnes disease (JD) incidence, although the occasional spike still occurred, mainly in young deer. He said information is provided to 550 venison suppliers, accounting for 77 percent of all venison processed and 91 percent of all JD infections detected. Between 8–20 percent of farms each month were sending in deer that had JD lesions detected.

Norton said the difference in carcass weights between JD and non-JD animals had fallen from 4–5kg to only 1–2kg, probably because outbreaks were now less severe than before. “We have shifted from the epidemic phase to a situation where we have a more resilient, better-performing deer population. Outbreaks now usually only appear where animals are stressed.”

The JD database routinely produced productivity information such as estimated growth rates, carcass weights and returns per head and this could be benchmarked against other farms regionally or nationally. “We’ve probably reached the limits of easily accessible information that can be reported from your slaughter data.”

He noted that Silver Fern Farms (SFF) had recently aligned its cutoff between “young” and “mature” deer with its Cervena classification. The result that some deer previously from SFF classified as “young” (<3 years old) were now “mature”. Overall, monitoring was fitting with expectations, however.

As NAIT tags were registered when weaners were tagged, they were given a default date of birth of the previous November, which helped narrow down age definitions for young stock going through the works. Norton said increasing compliance with NAIT would make this age information more useful for accurately determining growth rates etc and providing “hands-free” benchmarking.

Looking ahead, Norton said he was looking into what else could be done to add value to DeerPRO. New options should tap into the existing surveillance and reporting systems it already has to boost bang for buck. For example monitoring the frequency of liver damage or tick infestations could possibly be added to feed back to farmers and help generate a conversation with their vet. He said he was aware there was also merit in “sticking to our knitting” to preserve the integrity and purpose of the programme. A small pilot study on liver damage was planned for next autumn.

OSPRI update

“Enjoy your \$26!” That was the tongue-in-cheek comment from Waikato’s Steve Borland to OSPRI during a discussion about tags for two of his hinds apparently having disappeared despite best efforts when animals went to the works.

OSPRI chief executive **Steve Stuart**, head of NAIT **Kevin Forward** and disease management leader **Mark Neill** brought branch chairs up to date.

Key points were:

- There are currently 38 infected herds in New Zealand, including four deer herds (in 1994 there were 51 infected deer herds).
- Of today’s infected herds, half are in Hawke’s Bay (none of these are deer).

- OSPRI is still on track for eradication of Tb from livestock by 2026.
- Research is being directed towards more use of applied technology such as drones, cameras and artificial intelligence for greater efficiency.
- More targeted, risk-based testing will be the norm. That means less testing where risk is low.
- Three-yearly testing in surveillance areas will cease in February 2021, but pre- and post-movement tests will be done to mitigate any increased risk from this.
- NAIT compliance is at an all-time high, but is still “too low”. That said, deer industry compliance is better than for dairy or beef cattle.
- A reminder that once you buy tags they are linked to your location; once the animal is tagged the final and frequently neglected step is that you then registered those tags on NAIT on your account and NAIT number. You can't transfer unused tags between farms. Your NAIT number is like your physical address.
- “Unsafe to tag” deer need to carry a visible mark, e.g. raddle down the back, and this should be noted on the ASD form when these are being transported to the works.
- Deer farmers are represented on a new technical farmer reference group that advises OSPRI on traceability (their report is due next April).
- If there is a problem with missing tags or suchlike when you transport animals (as had happened for Steve Borland) you are less likely to be prosecuted if you're making a genuine attempt to rectify the situation. Stuart told the meeting that “generally we target the wilfully non-compliant ones”.

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Steve Tickner, GM livestock, Pāmu.

Pāmu – deer numbers reducing

Pāmu's love affair with deer isn't exactly on the rocks, but it may be cooling a little. **Steve Tickner**, Pāmu's general manager livestock, brought branch chairs up to date with the company's activities and direction, particularly in relation to deer.

On the sheep, beef and deer side, deer represent 15.1 percent of the stock units, generating 13.5 percent of total revenue. Over the past 10 years, breeding hind numbers have dropped from 58,000 to 47,500. They peaked at nearly 61,000 in 2012.

However deer's share of Pāmu's total livestock numbers has declined only by 1 percent in that time – breeding stock numbers in other stock classes with the exception of dairy have all been reduced somewhat as Pāmu repositions its business in the face of contemporary challenges. Overall, Tickner said Pāmu's deer herd represents just over 11 percent of the national herd – still a significant number.

In the latest financial year, Pāmu sold 1,431 store deer at 68.24kg average liveweight and sent nearly 36,000 to the works with an average carcass weight of 56.69kg (yield 54.1 percent).

The company's investment in deer farming is just over \$100m, although about three-quarters of this is accounted for by fences (nearly 30,000ha is deer fenced). While Pāmu initially invested in deer with a hiss and a roar, much of the infrastructure is ageing and is expensive to maintain.

Deer were responsible for a \$16m hit to Pāmu's balance sheet between 2019 and 2020. This came through a combination of 2,500 fewer deer and reduced values.

Tickner said one of the reasons behind the reduction in deer numbers is the costs and challenges associated with maintaining herd numbers thanks to infrastructure and environmental issues.

On Thornicroft, for example, they are facing big fencing costs because of stock exclusion requirements. There are only five troughs on the 3,000 hectares at the moment. Tickner said the cost of stock exclusion on this farm alone will be \$4m with deer in the mix, and \$2m even without deer. They are looking into virtual fencing (for cattle) and the cost of water reticulation.

He noted that because it takes so long to build a deer herd, it's not easy to reverse a drop in numbers. He couldn't give any assurance that the company won't keep reducing deer, but added that "we love deer and we'll retain them where we can".

In addition, more land is being planted in trees, but the focus is on erodible hill country and an integrated approach. While first-cycle forestry is largely radiata pine, they are also exploring options including manuka (for honey), eucalypts and redwoods.

Different systems such as composting barns and regenerative agriculture are also being investigated (although Tickner was keen to point out that it's not clear what "regenerative" actually means in the New Zealand context).

Intensive winter grazing is a sensitive topic. On average, it accounts for 4.6 percent of Pāmu's land area in any year. Tickner said they were very upset by the activities of welfare activists and the unfortunate exposure of dead animals on winter crop on a TV news item in September. "The negative images disrespected the whole industry." He said that while there was nothing

wrong with the management practices on the farm concerned, the dead animals should not have been left there for all to see. "We do need to be better at managing extreme weather. That situation came after heavy rain but our systems didn't cope in that case."

He said their cropped area had reduced by 12 percent over the past couple of years, "but that's not enough for some [critics]". ■



Pāmu's Thornicroft Station faces big bills for stock exclusion.

Immune function: continued

Improved breeding

Title	Type	Time
Tomorrow's Deer	Full	On-going
Across-breed connectedness	Adjunct**	Until Dec
Deer Select	Full	On-going
Progressing genomic discovery to industry implementation	Full	2½ years
Risks around removal of PMSG for synchrony for AI	Learning Phase	3 months

On farm

Title	Type	Time
Matching seasonality and behaviour to landscapes	Full	5 years
Lifecycles of lungworm and gastrointestinal parasites	Full	6 months
Super-shedders of lungworm	Full	18 months
Penside lungworm diagnostics	Learning Phase	1 year
Climate-related deer health issues	Learning Phase	6 months

Post farmgate

Title	Type	Time
Does velvet antler improve innate immune cell function?	Full	9 months
Venison functional claims	Learning Phase	6 months
Venison soft offal and co-products	Learning Phase	9 months
How to embrace Te Ao Māori in deer science innovation	Learning Phase	6 months

Environment

Title	Type	Time
Impact on water quality of deer in hill- and high-country farming systems	Full	3 years
eDNA for macro-invertebrates	Adjunct**	3 years
Winter feeding	Learning Phase	9 months

****Work that has been commissioned directly from AgResearch by DINZ. It is not co-funded by AgResearch but is linked closely to other S4S work.**

Seared Cervena® Venison Salad and Pinot Noir Syrup

Recipe by Al Brown

A long-time fan of Cervena venison, Al presented this dish at the Wellington on a Plate Master Class, August 2011.

Serves 6 as a starter

Ingredients

The venison

- 6 x Cervena venison medallions
- 1 bag Frisée lettuce or similar
- 100g blue cheese (crumbled)
- ½ cup walnuts (toasted)
- Walnut oil
- Fresh black pepper

Garlic and thyme roasted Portabella mushrooms

- 6 x large Portabella mushrooms (peeled)
- 50g butter
- 2 x bulbs smoked garlic
- ½ tbl fresh thyme (very finely chopped)
- Salt and fresh black pepper

Pinot Noir syrup

- 1 cup Pinot Noir
- ½ cup brown sugar
- 6 whole cloves
- 2 whole star anise
- 1 bay leaf

Method

1. Pinot Noir syrup

Place all the ingredients in a saucepan and put over medium heat. Reduce to a syrup consistency, 5 to 10 minutes. Remember the syrup will be a lot thicker once cooled.

2. Garlic and thyme roasted Portabella mushrooms

Pre heat oven to 170°C.

Place the Portabella mushrooms skin side down in an oiled oven-proof dish. In another saucepan over low heat, melt the



butter with the garlic and thyme.

With a pastry brush, liberally brush the underside of the mushrooms with the thyme-butter mix. Season with salt and pepper and place in the oven.

Cook for 15–20 minutes, until the mushrooms are soft and cooked through.

Remove, cool and refrigerate until required. Can be done 2 or 3 days ahead.

3. Cooking, plating and serving

Pre heat oven to 180°C and place the mushrooms in the oven to heat through.

Bring venison medallions up to room temperature, then season with salt and pepper. Take a skillet and place on medium-to-high heat. Add a little oil to the pan, then the medallions. Cook for about 2 minutes on each side until nicely browned. Remove and rest. The venison should be rare to medium rare.

To serve, place a warm mushroom in the centre of each plate and top with some slices of venison. Add some salad leaves, crumbled blue cheese, and walnuts. To finish, drizzle over the walnut oil and likewise the Pinot Noir syrup, and a grind of black pepper on each plate.

Serve now... ■



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