

Deer Industry News

Next Generation head to Queenstown



US Retail Venison

PLEASING PROGRESS AS COMPANIES TEAM UP WITH DINZ TO TARGET RETAIL MARKET IN US

Velvet Workshop

VELTRAK, MARKET UPDATES, COMPOSITION RESEARCH, GENETIC POTENTIAL EXPLAINED

Tech Expo Report

PALMERSTON NORTH HOSTS WIDE-RANGING TWO-DAY WORKSHOP FOR NORTH ISLANDERS

Deer Industry News

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Cover: Queenstown hosted the 2021 Next Generation programme with a focus on practical on-farm visits. Here the group enjoy the last stop at the spectacular Deer Park Heights. See more on page 24. Photo: Phil Stewart.

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EDITOR Phil Stewart, Words & Pictures
LAYOUT Rory Stewart

The challenge of reducing GHG emissions



Mark Aspin.

Our free range livestock sector faces challenges as it turns the sun's energy into food, clothing and other products for global consumers.

ONE OF THOSE challenges is contributing to global warming through the production of methane from rumen digestion and through our grazing systems depositing urine that can be transformed into nitrous oxide. Both these greenhouse gases (GHGs) contribute to global warming.

Although New Zealand only contributes about 0.17% of total GHG emissions (source: OECD), just under half of that comes from livestock (source: Ministry for the Environment). Since 2003, the sector (including DINZ) and the Government have invested \$85m in research to reduce livestock emissions through the Pastoral Greenhouse Gas Research Consortium (PGGRC).

In a pasture-based system, an absolute reduction in methane can only be delivered by reducing feed eaten because the relationship of methane and feed eaten from pasture is relatively stable. Less feed eaten leads to a reduction in meat, velvet and milk production if a farmer is unable to increase the amount of produced per unit feed eaten.

The challenge becomes how to maintain profitability with less feed being eaten than before.

The PGGRC has focused on ways to decouple GHG emissions from the amount of feed eaten by ruminants. We are confident this can be done to a considerable extent. We are seeing some approaches emerge and have pursued four science options. All are focused on methane reduction and all have an opportunity to be used across all livestock species, including deer.

Considerable progress has been made breeding low-emitting sheep, which are now available to the sheep sector. Work has started on breeding low-emitting cattle and deer. With deer we have advanced methods to accurately measure their emissions.

Research has identified plant species that reduce methane when eaten, but the scope for these to replace pasture as the major diet is limited. Some forage crops such as brassica rape, plantain and fodder beet show promise, but they need to be the majority of the diet to do this, and this would limit their utility.

Feed additives have significant reduction potential (30–90 percent), but these work best where the feed is brought to livestock. As a supplement in free grazing systems the reduction potential is much less (5–20 percent). We are creating inhibitors for a slow-release capsule that delivers a targeted compound. It gave significant reductions in small-scale trials and larger-scale trials are planned.

The fourth approach is a methane vaccine, harnessing the animal's immune system to create antibodies to reduce methane production. This works in principle at pure culture level and further proof of concept trials are underway. If it can work (it's very tricky science) it could be a game-changing option.

We are working with talented scientists. The sector and Government have got in behind He Waka Eke Noa to commit to lower our agricultural emissions. We are positioning ourselves to meet this challenge but it's going to take a concerted effort by all to make the changes needed. ■

– Mark Aspin, General Manager PGGRC

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Venison project gains traction in United States

by Richard Rennie, *Deer Industry News* contributing writer

A joint project between DINZ and four venison marketing companies, funded through the Primary Growth Partnership with MPI, has started making inroads to the US retail market. Despite a tough year of lockdowns, shipping disruptions and shifts in consumer behaviour, all are pleased with progress. This issue we look at the efforts of Silver Fern Farms and First Light.

Retail push for Silver Fern Farms

A PUSH INTO the large US food retail market over the past 12 months has started to deliver dividends for Silver Fern Farms in what has been a challenging year for all primary sector exporters.

The company's strategic programmes sales manager Matt Luxton says Silver Fern's efforts launching into the United States have included venison as one part of the company's multi-protein portfolio that also includes lamb and beef.

The packaging, sizing and presentation of the US retail packs are similar to the products that have been successful in New Zealand.

"Interestingly, it is the venison that engages most strongly with retailers – typically our beef products will get us the meeting, but they quickly also become interested in the venison; it's a new and different product."

Venison tends to be categorised in the "exotic" meat segment, which includes such diverse animal types as bison, goat, boar and even alligator in the United States. By far the largest portion however is bison, which accounts for annual sales of about 900t, now mainly through specialist butcher outlets.

Luxton says Silver Fern Farms already has the highest-ranked item in the exotic category for the stores that it is in, and is now the highest-selling venison item in the United States by a significant margin.

It has expanded its retail efforts through the 600 stores sold through on the East Coast, and 250 on the West Coast. There are plans for a further 850–900 in coming months, with the aim for 1,500 stores by the end of the first quarter next year.

All the product is retailed, with the exception of 50–80 outlets, through stores owned under the Albertsons corporate banner.

"Fortunately, we had been piloting our retail approach before Covid arrived, so we were in a good space when the pandemic hit to push 'go' on the campaign."

Building a retail brand presence has proven vital to insulate from the foodservice trade, which has been hit so hard by the virus, something duly reflected in the slump in schedule prices.

"Retail consumers tend to have stronger loyalty, to be stickier than food service. We are very cognisant of the slide in schedule returns to farmers through Covid, so having a steadier retail market for product is one part of the multi-pronged approach to driving more stability and value back into the schedule."

The company estimates that having about 1,500 stores supplied will generate sufficient critical demand to help underpin greater stability in long-term schedule values.

Venison offerings have gone beyond the traditional ground product to include medallions from Denver leg cuts.

"The United States consumer is often unsure how to cook venison, so education has played a big part in this launch, something retailers have appreciated. It helps tie in repeat purchases."

That education has included nutritional information to the "conscious consumer" that Silver Fern Farms has targeted.

Geo-targeting consumers who reside near the retail outlets with prompts to get them instore is followed up by education, pack promotion and labelling, with re-engagement post purchase to seek feedback.

"This is particularly appreciated by retailers who want a partner who understands the consumers' journey."

To help counter the impact of Covid lockdowns, Silver Fern also created an online retail outlet.

"But online is not a silver bullet; it is always a long-term activation that is one piece of the retail puzzle. It is also where we gain an in-depth knowledge of our consumers and can use this understanding to better serve our multiple channels."

Selling a chilled product in an environment where shipping schedules are clogged and sometimes erratic has proven challenging.



Venison medallions are part of the mix for Silver Fern Farms' online offerings to the US market.

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US Retail: continued

“Despite our partnership with shipping consolidator Kotahi it has not stopped us experiencing issues when ships hit congestion at ports like Long Beach. It can make for a few logistical dramas. We are achieving it, however, and it has taken a big team effort to keep supply through to the consumer constant,” says Luxton.

Silver Fern Farms is striving to ensure that venison has a viable future.

“To achieve this we believe a sustainable, consistent return to farmers is essential. To achieve this, the industry needs more consumers being able to source our products from multiple channels in key markets around the world.”

New venison products in United States for First Light

The decision by First Light to move its entire sales and marketing operation to the West Coast of the United States was made just before Covid, but has proven timely in light of the company’s market advances and the pandemic’s reach.

With the company’s Wagyu beef business well established there, GM for venison Matt Gibson says First Light is well positioned to also push out its venison retail projects, partly funded through DINZ and Passion2Profit.

“The strength of our Wagyu line has come from its good retail front. Covid hit venison hard through the foodservice sector, so there was a good opportunity to get alongside Wagyu and the ground it has already made in retail,” he says.

He says the company’s Wagyu label and venison are both grass-fed, niche, artisanal red meat products.

Gibson says awareness of venison as a meat has grown significantly recently, in part thanks to comedian Joe Rogan’s “eat what you kill” movement, re-connecting people more closely with their food source through ethical and humane hunting.

“Many like the idea of this, but don’t hunt. But purchasing free-range, antibiotic-free, grass-fed venison is the next best thing.”

This has also been boosted by a global pandemic that has increased awareness about the need for iron-rich, nutritious food to help maintain health and immunity.

The company is about to launch two key venison products. One is the “venison brick”, a fine ground mince product aimed at consumers as a replacement for regular beef mince. The company has just signed up giant food chain Wholefoods to supply stores with the product.

The other development has been a retail pack of Italian-style meatballs.

“Typically, Italian meatballs will comprise one-third each of veal, beef and pork. We have removed the awkward element, the veal, and replaced that with venison.”

He says it is still early days in the product’s lifecycle, but early feedback has been promising.

“With these two products we have taken care of the ground-meat component.”

Back home in New Zealand, First Light has just launched a venison leg steak retail pack that includes a portion of Lewis Road butter for finishing the cooking process.

Plans are afoot to take the same retail product to the United States in coming months. Educating consumers about cooking it correctly are clearly laid out on the pack.

“We are very aware meatballs tend to be more forgiving than a steak, and you get one shot with a venison customer. You want them to get it right and come back again.”

Like all exporters, First Light has grappled with shipping schedule issues over the past few months.

“The industry is at the dawn of the European chilled trade season and very nervous about how this is going to go. Delays and a lack of equipment seem to be ongoing; it is first and foremost in everyone’s minds.” ■



First Light meatball retail pack launched in recent weeks along West Coast United States.

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Season	Carcass Weight (kg)
2013	52
2014	53
2015	55
2016	51
2017	60
2018	59
2019	61
2020	62
2021	63

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DPO121

Velvet focus for South Canterbury Regional Workshop

by Tony Pearce, DINZ Producer Manager

There was a strong turnout to a lively and well-constructed P2P Regional Workshop on velvet antler at the Fairlie Golf Club on 8 July, hosted by the South Canterbury North Otago DFA and South Canterbury Velvet Advance Party facilitated by Sarah O’Connell.

AS WELL AS the members of these groups there was a good contingent of farmers from further afield, plus industry representatives from Christchurch. There was a full programme covering markets, production, traceability, grading and presentation for sale.

VelTrak™

DINZ manager, markets, **Rhys Griffiths** said a large number of velvet suppliers had already registered for VelTrak, which was essential to meeting regulatory requirements, both here in New Zealand and for our overseas markets. Large and sophisticated food companies in Korea that promote New Zealand velvet also welcome VelTrak. This improves supply chain integrity and helps protect their respective corporate brands.

He emphasised that New Zealand’s position in the market is

already strong but VelTrak allows one-up one-down tracking, a logical extension to our premium positioning.



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Velvet focus: continued

The New Zealand industry had responded well to calls for registration, but all farmers needed be registered as soon as possible, as the system was due to go live from August.

Market overview

(See also conference report in the June/July *Deer Industry News* and Tech Expo report on page 14 of this issue.)

Griffiths said in the 2008/09 season, 431 tons of velvet was grown and exported from New Zealand and generally treated as a commodity. From 2010 the concept of a high-value ingredient in healthy and functional foods, branded and identified as having NZ origin had its beginnings. Today's \$100 million returns are edging closer to the value of venison (about \$140 million farmgate value).

Identifying NZ provenance and the quality systems to support that began with the New Zealand Velvet quality tick mark. This was initiated by our closest market partner, KGC and has also been used by a few other in-market partners. LG Household and Healthcare is one of the companies that supports the New Zealand provenance and regulatory story.

Griffiths said for large companies there are three important "ESG" themes, covering Environment, Social and Governance. New Zealand velvet operates well within this positioning:

1. Environment – we produce New Zealand velvet in the world's best environment including free range animals that are exhibiting their natural behaviour.
2. Social – Links to farms of origin and New Zealand.
3. Governance – our strict government oversight – and a position that VelTrak will strengthen.

Importing companies are proud of the New Zealand connections and many of their products promote this through barcode scanning or QR codes.

Griffiths advised that producers and growers of New Zealand velvet should be proud of the industry's growth and the image that

underpins its value in the market today.

He acknowledged the industry's resilience, noting there is a good plan in place in the healthy food sector and great connections in the market.

The Covid-19 outbreak had caused much uncertainty including the impacts on logistics, demand and people's own financial situations. However there had been good communication with markets and strong underlying demand for New Zealand velvet, albeit at a lower price than the previous season. All available velvet was sold by January. The big disruptor had been the uncertainty of frozen container travel into China.

Velvet composition research: Stephen Haines, AgResearch

Velvet antler composition analysis was undertaken at AgResearch Invermay in the early 1990s. It showed NZ velvet at the time was at least as good as the competition from China and Russia. However velvet production has changed a lot in the nearly 30 years since then, and a new study was commissioned in 2018, explained Stephen Haines. (See also report in *Deer Industry News* August/September 2020, page 6.)

The 2018 study looked at the influence on composition of stage of growth at removal, stag genetics (velvet vs. trophy) and any effects of PKE use (although this was not part of a full nutrition study). Impacts on ash, protein, minerals, fats, and amino acid profile in the velvet were explored. The study showed that the proportion of the antler in the more valuable upper beam had grown considerably since 1991, protein and fat content had grown and the ash percentage had fallen – all signs that quality had improved.

Composition of antler from red and wapiti was very similar, the study showed. It also showed that growing stags out for longer (7 or 14 days) increased yield at the expense of quality.

Haines said the study showed that genetics (velvet vs. trophy) affected protein and lipid (fat) content inconsistently and only slightly. Composition of velvet was broadly similar between farms, although there were some differences between individual sections.

No obvious effects of PKE on composition could be detected, but Haines said the results were confounded by farm variables. Overall there had been massive gains in both yield and quality over the past 30 years, he concluded.

More work was needed to explore the effects of stag nutrition – including PKE – on composition and the full effects of stage of growth on yield and composition. Haines also suggested research into the effects of production and processing methods on efficacy.

A 2021 study compared the composition of Super A Traditional (SAT), now the dominant grade, and Super A Non-traditional velvet (SANT) sticks. Haines said the market prefers the Traditional grades, even when the antler is to be used in powders, extracts and functional food ingredients.

Antler was sourced from 10 farms in the North and South Islands, removed around 55 days after button drop. (The velvet had been sourced for an immune function study currently underway at AgResearch.) Haines said his study showed that the composition of the powders produced by pooling the SAT or SANT antlers was essentially identical, which did have implications for the grading system. That said, he cautioned that more work was needed to identify the influence of the section of antler on composition, and



Stephen Haines said the composition in traditional grades (top) was virtually identical to that in non-traditional (bottom).

the effects of growth stage.

Haines concluded with the comment that the Chinese industry has invested significantly in improved technical data. For the future, composition of Russian and Chinese antler would be ideal to study against New Zealand product. At this stage there appear to be no comparative compositional studies available in the literature.

Longer term, immune function studies such as the one currently underway would be valuable, as would investigation into the impact of climate change and different diets (grass, fodder beet, PKE, etc).

What markets want: Provelco

Edmund Noonan, operations manager with farmer-owned co-operative Provelco, talked about market requirements and preferences. He noted the surge in demand from China and the increasing sophistication of the high-end products in which NZ velvet is an ingredient.

His strongest message was that the tips on the royal bulb and trez tyne must be rounded, with the optimal time for harvest from mixed-age stags 50–55 days after button drop. He said new grades would reinforce this message by penalising indented tops. (Although there might be some weight penalty when cutting at this stage, there can be a correspondingly good amount of regrowth. Noonan provided a cost-benefit example showing it could yield an addition \$100/head if you cut earlier to a higher grade but lighter weight and then got the regrowth, rather than chasing a heavier weight but poorer grade.)

It was wise to get the same person responsible for tracking the velvet mobs, with inspections three times a week when growth was advanced. Mobs shouldn't be too big, he added.

Overall the sticks should be clear and free of contaminants, Noonan said. And despite the science showing no composition difference between traditional and non-traditional grades, markets were still favouring traditional. For example, tynes should



This is what the market wants, Edmund Noonan said.

be proportional, symmetrical, well placed and not bifurcated (split into two points). Also the overall length of a stick should be in proportion to its circumference, he said.

Getting the growth stage right helped ensure the correct distribution of blood through the stick, as did placing the cut velvet on a 15–30° angle on a rack with the base elevated. Sticks should be allowed to cool to room temperature for up to 2 hours before going (not touching) into the freezer, which should be clean and capable of getting internal temperatures down to -15°C or cooler. Sticks shouldn't be removed from the freezer (e.g. for velvet judging) for longer than 2 hours, Noonan noted.

Velvet genetics: a key role for Deer Select

One of the real benefits of Deer Select for velvet producers is the ability to more accurately select female replacements that carry genes for desirable velvet traits, said Deer Select Manager Sharon McIntyre.

There's scope for recording and selection to refine what we are breeding for with velvet, especially as end uses become more sophisticated. Much of the focus to date has been on weights and McIntyre explained that we now know a lot more about heritability for this trait following more a robust analysis.

Heritability for velvet weights is 41 percent for two-year-old and 43 percent for three-year-old velvet. These figures were based on analysis of 50,000 velvet weights from 25,000 stags representing 1,419 sires. Interestingly, if birth date was known, the heritability was increased by 5 percent.

There is potential in future to select for other desired velvet characteristics, beyond weight.

McIntyre said in addition to good genetics, stag fawns needed a good start in life via lactation and decent weaning weights to support heavier velvet weights as adults, while hind size was also an important predictor of progeny carcass



From left – bifurcation, poor tyne placement, indented top. All these attributes are difficult to market.



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Velvet focus: continued



Breeding values for velvet currently focus on weight. What else would you like to select for? Photo: Tony Cochrane.

weight. Early pedicle development was another positive. The bottom line was that being better feed as a young animal improved lifetime velvet production.

More practical considerations also need to be noted in genetic improvement. For example very heavy broad tops in the SANT style of velvet are difficult to dry properly.

McIntyre suggested that as well as more detailed recording of traits that are easy to record now (grades, beam circumference,

¹ Gomez, J.A.; Landete-Castillejos, T.; Estevez, J.A.; Ceacero, F.; Gallego, L.; Garcia, A.J. (2006). Importance of growth during lactation on body size and antler development in Iberian red deer (*Cervus elaphus hispanicus*). *Livestock Science* 105: 27-34.

regrowth for example), there could be novel techniques for recording developed. Given the rapid advances in digital technology there may be an opportunity to capture and analyse images of velvet traits like shape and tyne placement at, or after harvest.

There might even be scope for compositional analysis on farm, for example using ionisation knives. This involves two small two electric probes that issue a current, vaporising a small area. The ionisation probe analyses the gases, which may help in understanding bio-actives preferred for the market.

McIntyre said the variance between top quality processing velvet and other styles suggested it might be useful to look more closely at casting and cut dates, relating that to the grade harvested initially and then the regrowth weight and cut date.

There may also be opportunity to glean further information about pedicle size and its relationship to cutting date and velvet quality, she added.

Modern velvet production has a consistent, repeatable and valuable genetic component which should lend itself well to genomic selection using DNA markers.

“Given the value of supporting good growth in young animals, conception date may also be a useful indicator and perhaps an index for velvet weight as a percentage of body weight could be developed for the future.

New velvet season nearly here

by Richard Rennie, *Deer Industry News* contributing writer

At the quiet part in the velvet year, the market is looking with reserved optimism at the season to come, in the hope that it brings a continuation of the relative stability achieved over the past few years.

DINZ MANAGER, MARKETS Rhys Griffiths reports after the nervousness of Covid lockdowns and initial market disruptions, the benefits of providing a product heavily linked to wellness, immunity and health soon proved itself in the face of the ensuing pandemic.

These positive properties ensured strong sales through New Zealand’s traditional Chinese and South Korean markets.

He says hopes are high those properties will continue to hold New Zealand velvet in a good demand position this coming season.

“China has enjoyed a level of economic growth that has it as the best-performing economy, and while South Korea still has Covid issues, its economy is also looking like a sound performer compared with other OECD countries.”

But a clearer picture for the season will only emerge in coming months as contracts and conditions are signed up between parties.

“While underlying demand is looking positive, the greater challenge we share with the entire primary exporting sector is issues around shipping and supply logistics.”

New Zealand is trading in the midst of a global pandemic that has severely disrupted all major shipping routes, and risks seeing this country relegated in priority as shippers chase surging freight

rates on constricted, larger-volume routes.

The grounding of the *Ever Given* in the Suez Canal and the ensuing congestion back in March was initially thought to be a blip in global supply chains.

However, since then logistics and shipping problems have only



The *Ever Given* has long since cleared the Suez canal, but shipping logistics have only become more challenging since then. Velvet exports aren’t immune from the risks, so exporters are being encouraged to lock in scheduling well ahead of time.

“Understanding the triggers for calcification could be a further area for exploration.”

McIntyre concluded that Deer Select velvet breeding values are still restricted to weights, but she sees potential for a more sophisticated suite of values if practicable and reliable measures can be developed. “That’s for the future, but it would be useful for producers to start thinking now about the traits they’d like to select for, using Deer Select BVs.”

Market perspective: PGG Wrightson

PGGW velvet manager and DINZ board member Tony Cochrane gave an overview of past and current market activities.

PGG Wrightson has been involved since the early days of the velvet industry. He said the velvet pools system dominated from the mid 1980s to 2008. This was followed by an unsettled period when the industry attempted to consolidate; then from 2011 the company replaced the pools with contract sales.

Cochrane noted that South Canterbury and North Otago was the biggest regional hub for velvet production in New Zealand and had also shown some of the fastest improvement in quality.

The following table (next page) underscored some of the big changes the velvet industry has seen over the past two decades.

The 2020/21 season for PGGW showed an increase in volume of

continued on page 10

grown. Schedules that for years have reported 80–85 percent reliability have plummeted into single figure territory, often as low as 5 percent. This has applied to all New Zealand ports, with concerns some shippers may drop services altogether.

“Indications are this sort of disruption is highly likely to continue through this year, and maybe part of next. Our advice to all velvet exporters and traders is to ensure you are very well prepared for delivery and scheduling, well ahead of time this year,” says Griffiths.

New Zealand has been particularly vulnerable not only due to its remote location, but also because of exporters’ reliance on refrigerated containers. Many are located in the wrong part of the world and are in short supply.

Airfreight does not offer much relief or an alternative, and is also unlikely to for some time.

“As long as passenger travel is limited, capacity for airfreight will remain low, expensive and tough to secure.

“The upside of this challenge is that once in market, prospects for demand based on last season’s experience are looking pretty positive.”

Here at home, farmers, buyers and processors will also be adapting to the new velvet tracking system VelTrak. DINZ has recently completed a series of roadshows, helping velvet buyers become familiar with technology that aims to ensure velvet is sourced from registered premises and meets all standards required, while also offering a fully traceable tracking system.

“We are seeing responses from across the spectrum to something that is quite new, but the feedback we are getting about the role VelTrak will play in ensuring transparency and traceability is encouraging.”

Griffiths says other changes to velvet standards this season relate to minor adjustments to grading, last changed in 2013. ■

New velvet season fast approaching



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Velvet focus: continued

	2002	2021
Production (tonnes frozen)	520	900 (est.)
Estimated velvet producers	3,000	1,200
Volume in pools	75%	No pools
NZ processors	>20	8
Export destination	60% direct to Korea	60% direct to China
% volumes per grade	SA 6.2%	SA 45%
Value of regrowth	\$85	\$108
Market end point focus	Traditional Chinese Medicine	Online specialist stores, healthy functional food products

11 percent with an average net farmer value of \$105/kg versus \$128 for top grades the previous season (excluding hard velvet or hard antler).

Super A and A grades comprise 60 percent of production by volume, B and C grades 5 percent, regrowth 17 percent and spiker velvet 5 percent.

Cochrane said all product has been sold in spite of Covid-

related issues at the start of the season but there has been less demand for elk and wapiti velvet and overgrown product. Despite Covid-19, demand in China has remained strong and there has been some significant re-export from China into the Korean market, he said.

There still remains stronger demand for Regrowth than Super A traditional type grades due to the recoverable amount of “jelly tip”.

Commenting on the PGG Wrightson/Provelco/CK Import Export China Velvet Coalition (CVC), Cochrane confirmed that the companies will continue as individuals, competing for new markets. The coalition’s main aim is to replicate the success enjoyed in the Korean healthy functional food market.

The CVC won’t be without challenges, particularly around regulations and bureaucracy, but he sees huge potential in working with new food and beverage-type companies that have a strong market presence and a commitment to capture value.

While new products will be developed for China, it will take time and money to register them.

Despite that, Cochrane remains confident. He said China’s economic growth continues, increasing from 2.3 percent in 2020 to a current rate of 8 percent coming out of Covid. In 2021 there is also significant growth in the South Korean and Taiwanese healthy food markets, he said.

The import tax into Korea has been progressively reduced from

China project helps unravel chefs’ venison puzzle

by Richard Rennie, *Deer Industry News* contributing writer

Significant differences in how Western chefs view venison compared with their Chinese counterparts have become apparent, thanks to an intensive project working with Shanghai-based chefs.

THE PASSION2PROFIT-FUNDED WORK has lifted the lid on how venison fits into the context of Chinese cuisine and highlighted the disparity between Western and Chinese cut types. The research project was conducted with Tribal Brands Asia market research.

The project involved dispatching a mix of venison products of varied cuts and sizes to chefs, asking them to develop six dishes and to document these with photos and videos.

They were also asked to complete a scorecard that asked them to rate the cuts’ suitability on grounds of flavour, suitability, value-add appeal and ease of use.

In contrast to the heavily trimmed primal cuts usually preferred by Western chefs, the Chinese cooks preferred cuts that were in more whole form, such as entire ribs or flaps, leaving them capable of trimming and shaping them as required.

The chefs struggled to identify the cuts when they received the sample packs, even with labels on each product.

DINZ venison manager Nick Taylor says it was not only cut type that challenged the chefs; interpreting meat texture also risked

being lost in translation.

“When we sell venison in our traditional markets we talk about it being tender.

“They talked about it in a few different ways; for example the shoulder cut descriptor translates as ‘bouncy’, but that is in a positive way, not how we might think of a ‘bouncy’ piece of meat.”

Even the description “dry” was used to describe the shank for its firm texture that requires it to be covered in sauce and matched with soft, absorbent side dishes such as mushrooms and noodles.

The placement and prominence of meat in the meal is also significantly different to how Westerners view it, tending to be one component of many in the dish, rather than the “hero” in the centre.

Noodles, vegetables and spices all play an equal part in the dish’s makeup.

The chefs’ dishes encompassed a range of styles and tastes from sweet and sour venison ribs to Sichuan stir-fry venison rump, but the work revealed the piquant, pungent flavours used in much of

20 percent to 10.6 percent today and will be zero from 2029.

Cochrane said New Zealand velvet farmers should take pride in the Regulated Control Scheme and VelTrak, which will give stronger assurances about biosecurity, country of origin, traceability and food safety.

Animal welfare remained the number one challenge and adherence to expected standards is essential, he said. Even the slightest lapse in welfare had the potential to make negative headlines.

In conclusion he advised total production of 900 tons or more was certain for next season, providing increasingly important income for the deer industry. ■



Tony Cochrane sees huge potential in China.

Chinese cuisine complemented venison well, while soaking in oils and fats enriches venison's fine texture.

"We also found because they are not that familiar with venison, chefs tend to discuss it in relation to beef, as a comparison meat that is not really the same. The next stage of the work will include some thought on how we develop a Chinese lexicon for venison to put it into the context of Chinese cuisine."

One possibility mooted is to get alongside a Chinese chef with butchering skills who could help work through a carcass and develop cut types that would hold more appeal to Chinese chefs.

Long-time Shanghai resident and Kiwi Hunter McGregor has been working closely with Chinese restaurants in that city for over a decade, marketing Mountain River Venison, and has developed a close understanding of uses for a meat that has been little known throughout the nation.

He says part of the challenge with venison is introducing it as a relatively unknown meat that few chefs have experienced. ■



The work revealed the piquant, pungent flavours used in much of Chinese cuisine complemented venison well.

DEER FACTS

Drench Deer?

You've probably drenched more deer than you've had hot dinners. But the menu's just changed. There's a new drench on the table and the chef says that's it. No more menu changes are planned.

To make the most of the new drench and to reduce the risk that parasites will become resistant to it, we need to use other tools to reduce the parasite challenge. To drench as infrequently as we can while ensuring deer health and productivity.

Internal parasites

A costly problem
Internal parasites are a significant animal health issue on many deer farms. Young deer carrying internal parasites may have significantly decreased growth rates, along with increased death rates, when compared with deer not carrying parasites. This is largely due to a reduction in voluntary feed intake by infected animals. Deer growth rates can be costly. Slaughter animals only get a lower achievable price if they miss the spring or autumn peak. Younglings tend to be not fat enough to achieve good condition rates in the autumn. In addition, there is the cost of extra feed getting them up to target weights.

Control principles
Aim your control programme at:

- Reducing the level of larval challenge on pasture. This is where the vast majority of parasites are found.
- Encouraging deer to develop natural immunity to parasites.
- Where drenching is required, using only the appropriate drench for deer. This will delay the onset of drench resistance and preserve the effectiveness of drenches.

Underlying factors

- The rate of larval development closely follows the rate of pasture growth. Warm/moist conditions favour the development of larvae from eggs in pasture. When the pasture is growing well, the parasites are getting laid.
- Larvae are killed by frost and very hot dry weather, but eggs are more resistant.
- Intensive grazing at high stocking rates tends to increase the larval challenge.

Key points

- Internal parasites are a significant animal health issue on many deer farms.
- The most resistant parasites are longworm and Oiler-type gutworms.
- Deer develop immunity to parasites with age. Younger deer (under 1 year old) are more susceptible than older deer. Worms are easier to drench, primarily than red or fat liver deer.
- Reducing the larval challenge helps to limit one of the main sources of effective pasture management on deer farms.
- The emergence of resistance to commonly used drenches by Oiler-type gutworms is a major concern. There is evidence to suggest resistance is widespread.
- To delay the development of resistance, adopt practices that reduce the need for drenching, use all parasites of choice (left to right) and use ivermectin drenches.
- The management of internal parasites is becoming increasingly complex and needs to be planned. This is best done with veterinary input.

Management tools
To successfully manage parasites, it is important to use all the management tools that can be applied on your farm. Remember that an effective drench only kills those parasites on the animal (approximately only 50% of parasites on farm in any one drench).

Read the updated 'Internal parasites' *Deer Fact* enclosed in this issue of *Deer Industry News* for the latest info on parasite control.

Then file the *Deer Fact*, after discarding your existing copy, in the Deer health section in your *Deer Fact* ring binder.

Also updated are the following items that need to be swapped out:

- Subject index
- Feeding hinds for maximum fawn growth



Deer Facts are produced by DINZ as part of the P2P strategy – a joint venture between DINZ and the Ministry for Primary Industries.

Laughs and tears at farewell

by Phil Stewart, *Deer Industry News* Editor

There was plenty of aroha in the room, laughs and a few tears as friends and colleagues in the deer industry gathered at Wellington’s Docksider on 28 July to mark John “JT” Tacon’s retirement from DINZ.

THE EVENT WAS a perfect postscript to John’s honour at the deer industry conference in May, when he was presented with the Deer Industry Award following almost 30 years with the former Game Industry Board and then DINZ as quality assurance manager (see *Deer Industry News* June/July 2021, page 25).

John said he’d been sharing a lot of memories with friends in the industry as his retirement drew closer. There had been plenty of obstacles and challenges for the deer sector along the way, but he’d been able to work with others to find solutions – helping negotiate standards for the stunning of deer at DSPs was just one of many such tasks.

While all his colleagues deserved thanks, John singled out three in particular who had helped make his job easier over the years: Sue Lindsay, Janice Attrill and Pam MacLeman. “They’ve all helped do a lot for the industry through QA, transport accreditation, on-farm, you name it.”

John recalled the pioneering work that led to the Deer Code of Welfare in 2004. He said an early version, which was based on a template from the pork industry, replaced the word “pig” with “deer”. “We started a lot of references to ‘deerlets’ in the document, but that got sorted and in the end we created the first Code of Welfare for the red meat sector in New Zealand.”

He paid special tribute to quality systems administrator Pam MacLeman, his close colleague for the past 14 years. “Pam’s been my rock as we’ve worked our way through QA programmes, keeping compliance with the NVSB and the Regulated Control Scheme.”

John said he “freaked out” when first asked to talk to 300 farmers at a deer conference in the 1990s, but he soon got over that anxiety thanks in part to mentoring from Sue McLeary. “We ended up stealing the show – it certainly enthused the 300 farmers

and set the scene for the success of the QA programme.”

The people he’d worked with on the “other side”, the regulators, scientists, vets, farmers, enforcement agencies and so on, all deserved credit for the QA system working so well, John said.

“It’s been an absolute pleasure to work in the deer industry. It’s been the best job in the world working with the animals I’m passionate about and helping create world-leading standards for farming and processing deer.”

Pam MacLeman said John’s influence was one reason she’d stayed in her role at DINZ for so long. “You’ve been a wealth of knowledge, full of wisdom, a confidante and a good friend. I couldn’t have asked for a better team mate.”

Speaking for the DINZ Board, chair Ian Walker recounted a conversation with an older, experienced truck driver who’d been reluctant to get on board the transport QA programme but eventually relented.

“He told me he thought he knew it all, but after session with John he told me that was the best three hours he’d spent in a long time. John’s very well respected by all involved in the industry.”

Long-time deer transport colleague and friend Wayne McEwan has known John for over 40 years. “I want to thank John on behalf of the industry. He didn’t just set the standard for carting deer, he set the standard for carting livestock. He couldn’t have done it without the huge knowledge and hands-on experience he has.” ■



Pam MacLeman and John Tacon – a solid team for 14 years.

#VENISONBBQ – a celebration of our fantastic product!

Did you fire up the barbie on 7 August and cook your favourite venison cut prepared just the way you like it? That was **World NZ Venison BBQ Day** and people were quick to share their ideas and support on social media. Kiwi Hunter McGregor (second from left), who lives and works in Shanghai, China promoting and selling venison for Mountain River, was the brains behind the celebration. He got right into the spirit of the day, reporting that it was “hot but fun”. DINZ got behind Hunter’s initiative and promoted it through a competition and draw for a Weber BBQ on the NZ Venison Facebook page. Photos and entries with some ingenious BBQ ideas were pouring in as we went to press on the weekend of World NZ Venison BBQ Day: <https://www.facebook.com/NewZealandVenison>



The value of venison

by Vivienne Haldane, *Deer Industry News* contributing writer

Attendees at a Passion2Profit (P2P) venison Regional Workshop in Napier in July got the low-down on the current state of international venison markets and also got to sample a range of tasty venison dishes created by DINZ executive chef Graham Brown.

WITH COVID-19 CONTINUING to cause worldwide disruption, the biggest challenge for venison sales is learning to adapt to a radically changing marketplace.



Attendees got to sample raspberry tea smoked venison with fig chutney on a whole wheat cracker.

The shifting focus includes working with companies to build retail programmes in several markets and through digital channels, trade fairs and virtual events (see also article on page 3 on US retail market development).

Venison marketing companies, with funding from P2P, are taking advantage of North American retail space opportunities, particularly with easy-to-prepare products. China is another area of interest, with Silver Fern Farms launching retail items there.

“Farmers want to stretch the value of the animal, the processors want to be able to offer more items and restaurants want cheaper cuts they can make beautiful dishes with, without spending a lot

of money. Let’s face it: they are under extreme pressure at present. There’s a world-wide labour shortage in the hospitality industry. Therefore, we’ve got to look at things that are easier to do,” Brown said.

He demonstrated four meat cuts from First Light venison: silverside, topside, rump and knuckle. He broke these down into individual muscles, and de-silvered them for the Denver Leg (whole hind leg deboned). He then fabricated these into individual leg fillets, which can be used in place of the more costly saddle cuts, making them suitable for less expensive restaurants.

The new products were from the secondary cuts, some of which we sampled as cooked dishes after the demonstration.

“The brisket was slow-braised and then pulled when cold for the Ragu with Penne dish,” Brown explained. Ribs produced by Mountain River for Merchants of Venison were precooked, glazed and served with Yakinuku sauce. Raspberry tea-smoked venison with fig chutney (see photo) was produced in conjunction with Merchants of Venison and Brown; it goes to the local market next week. The Venison Picanha (tri-tip) was also mentioned.

“These cuts have been a while in production and are being sold off-shore as well as for the local hotel restaurant industry. They will soon be available online to New Zealand consumers. They are important for two reasons: they increase the value from the carcass, rather than going to trim; and they fit venison into the contemporary popular restaurant sector. That’s a growing market that accounts for a greater volume potential than the top end of the market and introduces venison to a new younger audience. Ground venison is also important in this market.”

Brown added that they are trying to make a point of difference with cuts not normally seen, and single cuts such as the Tomahawk steak. “It is much more user friendly for the retail customer; they



DINZ executive chef Graham Brown showed how individual fillets can be used in place of more expensive cuts.



Rear/right tray: topside and silverside. Left/front tray: rump and the knuckle fabricated into venison leg fillets, plus trim meat.

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North Island Tech Expo: Future arrives in Palmy

by Phil Stewart, *Deer Industry News* Editor

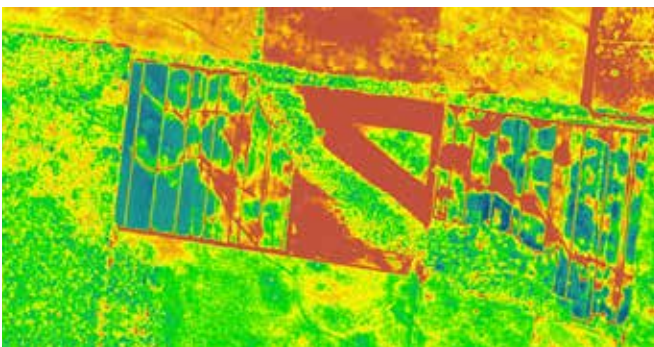
About 50 farm businesses took advantage of a well-curated technology showcase for the deer industry hosted at the Awapuni Racecourse Event Centre, Palmerston North on 30 June and 1 July. The Passion2Profit event was put on by DINZ and the NZDFA Central Regions branch, with chief organiser Pania Flint bringing together an impressive mix of speakers and exhibitors. Sponsors were Allflex, Silver Fern Farms, First Light, Datamars, Gallagher and TerraCare.

DEER INDUSTRY NEWS was in attendance: here's a selection of highlights from the event.

How your vegetation is really feeling

Multispectral imaging from drones can reveal a lot more about the state of crops and pastures than you might pick up on a farm walk. Field Air's **Chris McLaughlin** explained that the ultraviolet and infrared imaging picks up differences in the way light is reflected off vegetation. This shows the boundaries of chlorophyll absorption and tells you how photosynthesis is going.

The different reflective properties of vegetation are used to create indices for specific measures such as water content, he said. More than 150 indices have been so far published.



Multispectral imaging can give new insights into how crops and pastures are doing.

McLaughlin said the imaging can give readings for numerous indicators – presence of pests and weeds, soil fertility, plant density and spacing, yield estimates, water stress and much more. He said the intelligence is used by farmers to promote better crop yields and reduce damage.

While it's a good idea to trial the imaging first to see if it's right for you, McLaughlin said it's better to own the approximately \$10,000 drone and imaging setup because timing and ongoing monitoring are crucial to getting the best from the technology.

He said the imaging could potentially also be used to detect where fertiliser is and is not needed, and it might also be possible to calibrate for detecting woody vegetation to measure carbon sequestration.

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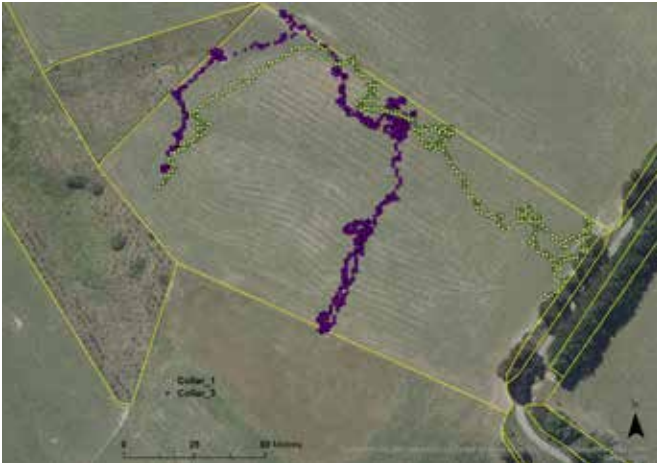
Mark McMannaway, Allflex, shows off the company's new EID reader. The Bluetooth and wifi-capable device can read NAIT tags, barcodes and QR codes and can print remotely.

Improving deer tracking tech on the hoof

Bryan Thompson, research associate with AgResearch Invermay, is studying deer foraging behaviour as part of a PhD programme through Lincoln University (see *Deer Industry News* April 2021, p25). The idea is to analyse different types of behaviours and then see if the genotypes associated with the variations can be matched to different landscapes for more efficient production. "We want to see how consistent that behaviour is across different ages, physiological states and landscapes."

Earlier work done at Whiterock Station using older GPS units had shown strongly contrasting behaviours between individuals and it's those variations Thompson wants to explore more closely.

He told the workshop that those first GPS units worn by the deer to track their behaviour were heavy, expensive (\$5k each in 2006) and had limited memory, battery life and accuracy. A lot of the units available commercially are still too big and heavy for deer and not easy to customise, so Thompson has set an intern onto the job of building a deer-specific and more cost-effective prototype. What they've come up with has wifi capability, a longer-lasting and rechargeable battery, updated GPS module and accelerometers to capture foraging behaviour in detail. The cases are 3D printed.



The detailed tracking via the GPS units shows individuals can follow very different paths when grazing.

Thompson said manual observations of deer foraging over 2-hour blocks have matched up very well with the data provided by the units. “It can detect when the head goes up and down, which is needed to record foraging behaviour.”

The prototype units can be made for only about \$70 each, which will give Thompson the freedom to track a decent number of individual deer. The work is being funded by DINZ and AgResearch.

Thompson said the units aren’t suitable for virtual fencing as they don’t include the hardware to give animals sensory cues, but “it’s an area I’m really keen on – we just need to get a developer to look at that kind of application”. He added that the foraging behaviour research could help identify individuals that prefer to graze near or away from riparian zones, something that’s worked with cattle.

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Proximity data has potential for deer

The Bluetooth on your smart phones gets used by the Covid tracer app to indicate if two people have been in close proximity. In a similar vein, some purpose-built and much simpler and less



Part of the audience at the Tech Expo.

expensive devices are being applied to deer to help accurately pair hinds and fawns. **Mike Tate** from Smart Shepherd NZ explained how the Bluetooth technology, developed to measure maternal outputs with sheep, is being successfully applied to detect the bonds between hind and fawn.

Tate described a successful trial with the technology in deer on Tahī Doonan’s Marlborough farm. (See supplied article on page 25 for more on this.)

He said there’s potential to explore whether there’s any correlation between strength of hind-fawn bond and weaning weight. He said the information provided won’t replace DNA testing. However, this new system can provide additional insights



Fawn with Smart Shepherd unit fitted.

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Value of venison: continued

don’t have to buy a whole rack and cut it up, and the bone makes it look impressive on the plate. It is at the high end of the market in the United States, but it’s a good start for people who are used to the beef cut. It’s a terminology they know.”

Spare ribs are a cheaper cut that would typically have been sold as trim, but now they gain rave reviews in grill restaurants. Brown has been promoting these in New Zealand and says the feedback has been sensational.

“These restaurants are all about grilling meat in big portions, and plenty of it, so this is a real win for us. Chef Tristin Anderson at Smokey T’s BBQ in Christchurch dry rubs, smokes them, adds a jus, then covers and cooks them indirectly. It shows with a bit of creativity, there’s much more in the venison animal that makes for great dishes. They are looking for items outside the norm, in addition to the cuts chefs have been so used to getting: the legs, the racks, the saddles, tenderloins, short loins, fillets and backstraps. It’s very exciting.” ■

Value from being in AP

Hawke’s Bay Fast Finishers Advance Party members Stephen Anstis and Matt Cook spoke positively about their involvement with the group and the deer industry in general.

“To become part of an industry-funded group and see the collaborative nature of the deer industry has been an awakening for me,” Anstis said. “I take my hat off to them; their information-sharing techniques are second to none.”

“We’ve been blown away by the whole industry and the amount of knowledge spread by events like this,” Cook said. “It’s fantastic that other deer farmers and people like our stock agent share their knowledge. You don’t see it so much in other industries. Being part of the group has been of great value.”

He added that setting goals and benchmarking were a vital aspect of belonging to the Advance Party. ■

Tech expo: continued

into maternal behavioural observations. For example, occasionally fawns end up being fed by a hind that's not their dam, so it does provide a different and useful perspective. The devices only need to be worn by animals for a couple of days to see who is with who. Tate said because the deer and sheep seasons don't coincide, the devices used for sheep can be adapted and used for deer as a low-cost alternative to DNA.

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Tracking fert applications

With a bit of GPS guidance you could be saving 10–15 percent on your fertiliser bill, according to **Martin Orange** of Tracmap. He said the system was more reliable and accurate than the traditional farm diary or human memory. Fertiliser applications can be recorded as they're done and sent to a cloud-based server via an antenna in the tractor.

"If you're using a contractor for ground or air spreading they can use Tracmap to save the data for you," he said. "You can send the contractor a digital farm map and show them exactly where the fert needs to go."

Orange said the data captured through Tracmap integrates with FarmIQ and would become increasingly valuable as compliance requirements ramped up. Companies like Ravensdown already had an option to integrate Tracmap data with their own farm mapping software, Hawkeye, as did Ballance with MyBalance.

"You own the data," he added.

There are two levels of accuracy available for the tractor units, either 1 metre (okay for fertiliser) or down to 30cm if greater accuracy is required. The 1-metre unit costs \$6k + GST, with an additional \$1,500 + GST needed to upgrade to the 30cm accuracy. The ongoing cost to access and use your data online is \$600 a year. "We have a Kiwi team based in Mosgiel," Orange said.

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GHG module in Farmax

If you're wanting to work out your greenhouse gas (GHG) number – and who isn't – and you're a Farmax user, then you already have the tools you need for the job. **Erin McIlmurray** of Farmax explained the GHG module was added just over a year ago.

The calculations focus on animals (dry matter intake) and fertiliser use. Emissions from fuel or non-agricultural waste, e.g. from farm vehicles, aren't factored in. The forecasting model used predicts both pasture growth and animal intake to calculate outputs including GHGs. McIlmurray said Farmax allows for changes in animal liveweight (set by users) and pasture quality through the year in its calculations, enabling more accurate GHG outputs.



Erin McIlmurray: Farmax can help you pin down your GHG number.

Reports on GHGs can be filtered to better understand your farm's emissions. "You can drill down into enterprises and individual mobs to see how they each contribute to total farm emissions. You can also run basic scenarios to see how reducing stocking rate reduces emissions."

The module also gives three KPIs for carbon emitted: per dollar of gross margin, per kg of product and per kg of dry matter consumed. There's also a timescale showing when the emissions are happening over the year – for example, there are variations due to stocking rate, stock demand and fertiliser applications.

"There's a lot to be figured out yet, and in the future we might see carbon pricing added."



Part of a Farmax carbon balance report.

In discussion, DINZ chief executive Innes Moffat noted that farming groups were still pushing hard for pre-1990 forest plantings and regenerating native forest to be allowed into GHG calculations from 2025. Farmax recently released a carbon balance report, enabling customers to see the offset effect of forestry on their farm.

McIlmurray added that the effects of methane inhibitor products would be built into the model as the data became available.

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Getting more out of VelTrak

Velvet producers will be starting to put VelTrak tags onto their product for the first time in a few weeks. There's no requirement for farmers to scan the tags but the option is there for those who want to take advantage of the management opportunities they present by using a USB barcode scanner. (The corresponding embedded UHF chip in the tags is for velvet buyers/processors to scan – they're not intended for on-farm use.)

Gallagher's **Brian Rose** explained that farmers can scan the barcodes on VelTrak tags as velvet is cut and tagged. He said the barcodes can be linked to scales, with grade and animal ID data included. An animal's production history could also be added in the mix. Gallagher recommends using a "hang cell" for weighing as they are more accurate for lighter weights.

Rose said the data helps keep close tabs on animal performance, and that of parents and progeny, with traits like temperament also being added if required.

With a lot of software and systems now being stored in the cloud, Rose said the data on individuals will also be able to flow back to mobile devices and the devices being used to capture information. "It will all be synched," he said. "We're not quite there

yet but that's the way it's going – it'll be seamless up and down.”

Capturing animal performance data linked to VelTrak tag barcodes can work with Gallagher's TWR-5, TW3 and TSi2 units, he said.

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Technology for technophobes

Gretchen King, who farms sheep, beef and deer at Porangahau in the Tararua district, has developed Cloud Farmer, a digital notebook that is helping ease the transition of tech-averse farmers into the digital world.

King said the tool is an operational one that feeds into functions like farm accounting and production software. Farmers are often feeling overwhelmed with compliance requirements right now, and simple tools like these help reduce some of the burden, she said.

Some of the data being captured routinely will also be handy for jobs like calculating your GHG number. “We already capture a lot of data – this just helps us do a better job and it can also save people like environmental consultants doing a Farm Environment Plan a lot of time.”

King said there's a one-off fee of \$1,000 to join Cloud farmer and then an ongoing monthly fee depending on the number of users.

Contact: gretchen@agrecord.co.nz



Gretchen King: Cloud Farmer is good for the tech-averse.

Wide Horizons

Grant Cooper, land manager with Horizons, explained the regional council's area includes three major catchments: the Whanganui, Rangitikei and Manawatu Rivers. It covers 1.5 million hectares of farmland (including 1m hectares of “very erodible” hill country) and 18 percent of New Zealand's class 1–3 soils.

He said their waterways do have issues with high nitrogen, bacterial and sediment loads. Regional councils need to establish rules to manage water quality but they also focus on community consultation, education and incentives. “There's also growing intervention from central government through national policy statements and environmental standards, prescribing how councils act on specific issues.”

Production forestry and water standards were already covered, with biodiversity and versatile soils also likely to be affected by new rules.

Horizons' incentive schemes included a sustainable landuse initiative for hill country. Their freshwater team works with farmers on riparian fencing and planting in intensive catchments, and with a biodiversity team. The incentives offered for treating erosion, protecting waterways and retiring native bush attracted subsidies of 30–50 percent. Support is also provided for farmers

developing nutrient management plans.

Cooper said riparian management and erosion control were challenging problems for the deer industry. “The obvious solutions of tree planting, fencing and retirement aren't as straightforward as they are for other land users.” That said, he'd seen deer farmers making good progress with riparian fencing and integration of trees into farm systems.

Lucy Ferguson, freshwater coordinator with Horizons, said a 3-metre setback is required if a waterway 1 metre or wider is being fenced. The setback is measured from the edge of the flow at its highest.

If farmers wanted to apply for a partial subsidy for planting and fencing, “get us to come and look first”. She said Horizons needed to estimate the costs and approve the work, with a 12-month lead time factored in.

Craig Davey, Horizons council biosecurity programme coordinator (plants), said the concept of using nature rather than brute force to control weeds is gaining ground. He said the approach for “entrenched” weeds was different than the approach for a new high-priority pest like velvet leaf.



Green thistle beetle is showing promise as a biocontrol. Photo: AgResearch

He said some biological controls such as broom gall mite, Buddleia weevil, white admiral butterfly (for Japanese honeysuckle) and horse tail weevil (for woolly nightshade) were starting to make inroads. A local trial with green thistle beetles in the Pohangina valley was showing promise, with the insects found up to 17km from the release site. The ragwort plume moth (“it looks like a B-52”) was hitting ragwort hard and meant it only needed spraying every few years. And for old man's beard – a big killer of native forest in the central North Island and invader of waterway plantings – the Serbian gall mite was starting to make an impact.

It's here!

Pania Flint told guests about the four-year journey that's finally led to the launch of a deer-specific drench: Cervidae Oral.

She said farmers no longer need to figure out effective dose rates for deer – they can use the label recommendations on this triple-combination drench without fear of under or over dosing. The dose rate is 1ml/10kg liveweight and the withholding period is 28 days.

“Don't underdose, don't overdose and stick to the withholding time,” she advised.

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Tech expo: continued

(Previously with “off-label” drenching, the default withholding period has been 91 days, a major bugbear for those finishing venison.)

A new drench is most welcome but is not a panacea. Flint said farmers should still use good management to reduce parasite challenges and only drench when necessary. “With the current actives available, it’s all we are going to have for quite a while.”

The development of Cervidae Oral was 50:50 funded by Nexan and DINZ. “I really want to thank Nexan – they went all-out to make this happen,” Flint said.

Further information: See supplied article on page 20



A welcome new tool for parasite control, but it’s for use as part of good management, not as a substitute.

Research: where should we look?

The transition to the new co-innovation model for deer research got slowed down by Covid last year, but partners DINZ and AgResearch are keen to get the four groups working well and engaging with deer farmers. DINZ farm performance manager **Phil McKenzie**, along with **Simone Hoskin** and **Michael Humphrey** (both part of the On-Farm co-innovation group) urged farmers to submit their ideas and priorities.

McKenzie said the four groups are On-Farm, Environment, Improved Breeding and Post-Farm and each is co-chaired by DINZ and AgResearch. The groups, which typically have 6–8 members, guide science strategy, implementation and adoption.

Humphrey said the On-Farm group had considered research into ticks and facial eczema. While both are recognised health issues in the North Island, he said they affected a minority of deer farms, while other issues such as parasites affected the whole industry and thus received greater priority. Current projects include lifecycles of internal parasites, penside diagnostics for lungworm, seasonal grazing behaviour, parasite super shedders and climate-sensitive diseases.

DINZ chief executive **Innes Moffat** said that in years to come it would be clear how well research dollars have been spent. If a research programme was not delivering, the co-innovation model had the flexibility to halt it so resources could be better used elsewhere, he said.

For further information: <https://www.deernz.org/home/deer-industry-new-zealand/research/>

BVs are about more than growth

Deer Select manager **Sharon McIntyre** urged farmers to extend their breeding priorities beyond growth BVs, to encompass traits like conception date (CD), parasite resistance (CARLA), mature weight and so on. Focusing on growth alone could deliver taller, heavier animals but not necessarily any meatier.

She said the Deer Progeny Test had revealed a big three-week range in CD traits, which opened up potential for better

productivity, especially in venison. “Imagine having fawns that were three weeks older than others at weaning.” She added that traits for earlier-than-usual conception were also associated with higher conception rates because there was more opportunity for females to cycle, another plus.

Setting up cross-breed (red and wapiti) BVs was challenging, she said, noting that the two breeds are further apart genetically than some cattle breeds are.

There was now more statistical heft behind the BVs for velvet weight traits, which provided opportunities to improve velvet genetics on the female side rather than simply relying on the sires. Females could be selected for retention at just 12 months as opposed to males, where the wait was two years.



There’s more statistical heft behind velvet BVs. Photo: Angela McIntyre.

McIntyre said there would be a few changes introduced with “Deer Select Mk2”, including a change for the base year for indexes from 1995 to 2005 and a range of new economic sub-indexes. These will be viewable individually to see the value of individual traits, or collectively to see a simple total economic value.

Work currently being done on genomics by AgResearch would likely be used to add more accuracy to BVs within the next 3–4 years.

For further information: <https://www.deernz.org/deer-hub/breeding/deer-select/>

Better genomic tools

A move from the now-obsolete microsatellite DNA analysis to the much grunter genotyping by sequencing (GBS) technology in 2017 made a big difference to the speed, volume and depth of genetic work, said **Michael Bates** of AgResearch group Genomnz.

GBS makes parentage testing more reliable, allowing easier distinction between large numbers of closely related animals. The “SNP” technology being used covers a much wider range of genetic markers than before – hundreds of thousands of them. Over 200,000 deer have been profiled on the new platform since 2017.

Bates said the breed composition analysis was now much more accurate and refined.

One promising tool was genome-wide association study (GWAS), which was used in the 1990s to confirm the association between smoking and lung cancer. That’s now being applied to deer to look for genetic markers for particular traits. A search for a CARLA genetic marker didn’t bear fruit, but traits for velvet

weight at two years (VW2) and early conception dates (CD) have been linked to genetic markers, which has the potential accelerate genetic gains even further.

Contact: michael.bates@agresearch.co.nz

CARLA, CARLA, CARLA, your BV's on

AgResearch's **Richard Shaw** helped develop the CARLA saliva test for sheep – now successfully applied to deer. He said the breeding value for CARLA was a much more reliable tool in deer than faecal egg counts or faecal larval counts.

Because the CARLA response wasn't affected by drenching, you could do both without compromising either the test or the drench. In addition there was no correlation between the breeding values for CARLA and growth. That meant you could pick and choose genetics anywhere on the spectrum for either, giving plenty of flexibility. For example, you might want a high CARLA score to protect progeny, but not high growth if it's a maternal sire you're after.

Shaw stopped short of saying the high-CARLA BV could replace drenching. "You'd probably still do a post-weaning drench but you might be able to drench less after that. The CARLA trait is a good insurance policy for the industry if drenches start to fail."

Contact: richard.shaw@agresearch.co.nz



Drenching won't interfere with the results if you CARLA test your deer. Photo: Richard Hilson.

Feeding for growth workshop

Some good tips emerged from a workshop on efficient feeding to grow young deer.

Good things

- Grain helps with rumen development in young deer. This process continues up to 12 months or even further.
- Barley should be easy for young deer to digest.
- Maize is good too, but it should be cracked for weaners to get the best out of it. About 250g/head/day is best for cost benefit.
- Give weaners first crack a fresh spring pasture (make sure it's not overly long) but take them off and let something else like hinds or cattle have a go once it's down to about 7cm (this helps reduce parasite exposure for weaners).
- If you're buying in a load of baleage, demand a test first. Looks can be deceiving.
- Get older deer to train weaners onto feeds like grain, or better still get them trained while they're still on mum. Some finishers supply grain to their breeders so they can get this started before the animals are weaned and moved.
- The deer rumen is adapted to a rich and varied diet – but even pure red clover is okay. Unlike cattle, deer don't get bloat.

Not-so-good things

- Unless it's been cut with a fine chop, maize silage can be hard for weaners to handle. In any case it shouldn't be a big part of their diet, especially pre-winter.
- Grape marc is used for deer in wine-growing areas but it's pretty variable. The mix of skin, seeds and stem has a lot of indigestible material and deer will pick through it for the skins. Usually the sugars are gone, especially if the material has been refermented and washed. It can help when there is a feed pinch, but it's basically a big load of wet, sloppy stuff and not that great for growing animals.



Grape marc fed out to deer on a North Canterbury farm.

- Try and avoid deer gutsing maize or they could get acidosis.
- Make sure maize grain has been dried and cooled correctly. One farmer at the workshop had fed uncooled maize which grew bugs and ended up killing some young stock.

Live from Korea

DINZ manager, markets **Rhys Griffiths** brought the workshop up to date on developments in the velvet markets before introducing **Jongkyu Jang** by video link. Jang has been working with DINZ in Korea for the past 10 years, helping develop the healthy food side of the market.

He works closely with big food and pharmaceutical company partners like Korea Ginseng Corporation (KGC), Yuhan Pharmaceuticals and LG Household and Health Care as well as traditional medicine doctors.

He said about 40 companies in Korea make health products using deer velvet, and 80 percent of these use New Zealand product. New Zealand velvet was no longer considered inferior to Chinese velvet – the battle for premium status was with Russian deer velvet, he said.

"New Zealand is now established as a good source of deer velvet. Companies now want to differentiate between themselves." Jang said this might revolve around traceability, exclusive relationships with New Zealand farms or sponsorship. "We have to provide good stories for the markets."

In response to questions from attendees, Jang said



Jongkyu Jang has been working with DINZ in Korea for the past 10 years.

continued on page 20

Tech expo: continued

farmers should work hard to maintain their high quality standards – that consistency would maintain confidence.

He said the New Zealand provenance was important, but some companies will take that further and align themselves with certain farms or suppliers. Griffiths said that was already happening with KGC and also with Yuhan and its New Origin stores and alignment with Alpine Deer Group and Minaret Station. “They’re all looking for their own story to tell.”

“How is the velvet price set?” one attendee asked.

Griffiths said this could be set between back-to-back contracts but also the big volume traders in Korea and China will be setting the mark. “They watch each other and look at whoever takes a position and makes the first move, and then they take it from there.”

He said some companies in Korea have been too slow off the mark to secure product and it’s important they secure their supply early, “particularly during these uncertain times”.

Another attendee asked why velvet products aren’t promoted and sold more in New Zealand.

Griffiths said it was purely consumer understanding. “It makes more sense to talk to a market that already understands the product. It would be very expensive to generate that level of awareness here.”

Shooting for the moon

Silver Fern Farms China sales manager **Glen McLennan** is chipper about the prospects for venison in that market but also realistic about the challenges. He explained the company’s “Project Moonshot” in China, which is using DINZ contestable funding to help educate chefs and consumers about venison.

The deer industry was right to reduce its over-dependence on one market (Europe) by looking to the United States, China and New Zealand (including the recent burger range), but there are many supply chain and logistics issues hampering new market development at present, he said.

In China they will be developing venison markets within the foodservice sector, direct-to-consumer markets and in premium petfood. McLennan said venison was featured at Silver Fern Farms’ trade stand at the recent SIAL food fair in Shanghai, attended by 100,000 people. “We submitted two new products at SIAL – venison ribs and venison cubes – and got innovation awards for each.”

For the awards, SIAL Innovation invites an independent jury of top experts, scholars, media, and consultants from the global food and beverage industry to select the most innovative products of the year based on five criteria: joy, health, nutrition, convenience, and environmental impact. The jury takes into consideration the consumption habits and market trends from different countries and regions worldwide.

“By the end of 2021 we expect to see venison on Chinese menus and in additional e-commerce channels in Beijing, Shanghai and Guangzhou. Pet owners also present a significant opportunity.”



The Silver Fern Farms stand at SIAL and the innovation award-winning venison packs (inset).

Article Supplied

First triple active oral drench for deer



AT LONG LAST, there is a triple active oral drench for deer. Made in New Zealand and with proven efficacy on North and South Island deer farms, new Cervidae Oral is possibly the first deer-specific drench in the world.

Veterinarian Dave Lawrence says it will enable farmers to optimise performance and farm more efficiently.

“The drench story has frustrated deer farmers for many years, with no deer-specific treatment available,” explains Mr Lawrence. “Parasites are the number one animal health problem on every deer farm in New Zealand.

“To get an effective treatment, of sorts, we’ve resorted to ‘cocktail’ mixes. With none of these mixes registered for deer, it has also meant a 91-day meat withholding period. Not only was

this inconvenient, but it also put the whole venison industry at risk (were the 91 days not observed).”

There has never been a parasite treatment for deer with real science behind it. In the past, products registered for sheep were considered workable. In fact, deer are completely different to cows or sheep; the way the animals metabolise chemicals in the anthelmintic is different.

Furthermore, using sheep products meant most deer were underdosed. “By underdosing all these years, we’ve been encouraging resistance,” continues Mr Lawrence. “And ignorance was bliss until the proverbial hit the fan.”

Cervidae has been almost five years in the making, the development cost shared by DINZ and Nexan. Mr Lawrence was

Chinese chefs were already interested in playing with venison. McLennan had seen it stir fried with pickled sauerkraut and cooked with an oatmeal crust, for example. It wasn't all plain sailing though. Some consumers liked to wash and boil venison first, partly for hygiene and partly to reduce the blood flavours. "Not ideal! We need to develop their trust in the product," McLennan said.

But as chefs got to know the product better and learn how to use it within Chinese cuisine, the real challenge will be getting buy-in from consumers, he added.

Echoing the comments about farm provenance stories for velvet in Korea, McLennan said the company needed to "leverage the incredible stories that you – New Zealand's market-leading farmers – can provide".

Contact: glen.mclennan@silverfernfarms.co.nz

The long game

Kāpiti coast-based independent agent **Noel Cudby** has been active in the industry for 50 years. Son Graham Walker-Cudby is now also in the industry. Noel said deer farmers had always responded quickly to challenges. He'd been delighted to see the way they had upgraded deer sheds – "some of the old ones used to be shocking" – and were taking NAIT and VelTrak in their stride.

He's also been pleased to see the uptake of breeding values and the way velvet has improved "in leaps and bounds" through better feeding and breeding. Venison faced immediate challenges and he'd been sorry to see good hinds going to the works recently. Overall though, after his decades in the business, Cudby is still optimistic for its future.

Hunter McGregor joins the conversation

"Grass-fed" proteins might be a big deal in some of our Western markets but it cuts no ice in China – in fact grain-fed attracts a premium there. That was one of the insights into the Chinese market provided by Kiwi Hunter McGregor, who's been living and working in that country since 2007.

McGregor has a close connection to the deer industry through his father Bruce, a deer farmer who was general manager with the former Deer Improvement.

He joined the Tech Expo by video link from Shanghai, where he's been working as an importer and distributor on behalf of Mountain River Venison.

It was up to the deer industry to create demand for venison in China, he said. He's been focusing on top-end Western-style restaurants. "Foreign chefs are always excited by a new type of meat."

Last year was very up-and-down, with turnover down 40 percent for McGregor as Covid-19 hit, but December was "the best ever".

While McGregor is excited about the potential for venison market growth in China, there were big barriers especially among traditional Chinese chefs (many are more cooks than chefs), who can be very close-minded. "We need to develop recipes, get some runs on the board. We're making a start on this."

McGregor said the traditional Chinese cuisine market was too tough a nut to crack for venison a few years ago, but "the market's changed".

He said all venison cuts have potential in China but leg cuts show the most promise. Ribs, shanks and cheaper cuts were good for braising. "One restaurant here offers six different venison options: tartare, steak, ribs, pasta, a burger and shepherd's pie. People are ordering tartare at 10am, so there can be demand!"

Follow Hunter McGregor on Twitter and Instagram: @NZhunt3r ■



Hunter McGregor with wife Winnie.

actively involved in the development of the product, working with Vetmed chemists Garry Harrison and John Petherick.

"Nexan was the only company to put its hand up for this project; none of the multi-nationals were interested in our very small industry," Mr Lawrence says. "As it turns out, working on something specific for NZ with a local company has been the best outcome. Nexan has been an exceptionally good partner to the industry and the drench will have absolute efficacy here."

Trial work on Cervidae Oral has been completed as a requirement of ACVM approval.

To establish efficacy, trials were repeated on two properties: a South Island farm with a history of resistance and a North Island farm that had done very little drenching. According to Mr Lawrence, lungworm and gutworm (*Ostertagia*) are the two parasites killing deer. Moxidectin, the ML in Cervidae Oral, has long been known to be highly effective against lungworm and on both trial farms Cervidae Oral proved 98.5% effective against gut worm (*Ostertagia*).

Next, safety was established by double-dosing the deer. There were no issues here.

Finally, they tested tissue residues to establish withholding time. Again, this was replicated in two different groups of animals. "The data shows we are completely safe at 21 days," continues Mr Lawrence. "There was no residue in muscle, liver, kidney or fat tissue." The official withholding period has been set at 28 days.

The benefits of a deer-specific drench are clear. Farmers will be able to optimise deer performance, achieving slaughter weights faster.

However, Mr Lawrence emphasises, farmers must use Cervidae Oral responsibly.

"The more often we use a product, the quicker resistance will develop. Take on board the advice on how to protect the efficacy of Cervidae Oral because the chances of getting another drench developed for us are nigh on impossible."

In short, advice is to practise cross grazing, refugia, ensuring deer do not graze down to low residuals, always use a triple combination drench, dose to the weight of the animals and do not use a pour-on.

"Finally, we have an effective tool to treat the underlying parasite problem, the world's first triple active for deer. Cervidae Oral will enable our deer industry to fly." ■

Rob Gregory returns to take up QA role

Deer Industry New Zealand seems to exert a strong gravitational pull on its former employees. Dr Rob Gregory is the third member of the current staff to have returned to DINZ following time in earlier roles (the other two are Lindsay Fung and Emil Murphy).

GREGORY STARTED BACK with DINZ as general manager, quality assurance on 1 July. This provided a month of overlap with his predecessor John Tacon, who retired on 31 July. He's a specialist in farm animal welfare and has extensive international experience in welfare and quality systems. His most recent position was with the RNZSPCA, where he helped launch SPCA Certified, the RNZSPCA's flagship welfare assurance programme.

Gregory completed his doctorate at Oxford University in the late 1990s, when he investigated behaviour and welfare in laying hens.

Since a working holiday in New Zealand in 2002, when he completed welfare-related assignments for AgResearch, Massey University and the former MAF, Gregory has spent much of the past two decades in this country.

His earlier spell with DINZ was from 2003–2006, when he was manager of the industry's NVSB and velvet research programmes. This was followed by three years producing welfare-related resources for DairyNZ, before a move to MPI as a senior policy analyst, animal welfare. In that role he was involved with an amendment to the Animal Welfare Act and the development of Codes of Welfare.

In 2012 he took up a position with World Animal Protection in Thailand as programme director – humane and sustainable agriculture (Asia-Pacific). There he was responsible for the strategic development and oversight of World Animal Protection's agriculture portfolio in Asia-Pacific. His achievements in that role included leading the development of the first National Code of Practice for Dairy Welfare in India, and facilitating the creation

of the first pre-stun slaughter facility for local cattle in Indonesia.

Welcoming him to the role, DINZ chief executive Innes Moffat said meeting the expectations of consumers, as well as the requirements of regulatory authorities in New Zealand and in overseas markets, is an ongoing challenge for which Rob is very well qualified.

Gregory said he's delighted to be back in the DINZ fold and has been impressed by the progress made during the intervening years in the development and maintenance of quality standards in the deer industry.

"It's been great to work alongside my dear friend John Tacon for a few weeks and tap into his vast store of knowledge and experience before his retirement. I'm enjoying getting reacquainted with the industry and looking forward to building on the great quality assurance work that John's led since I was here last," he said.

Like his predecessor, Gregory is based outside Wellington (he works from a home office in Auckland) but he'll be making regular visits to the DINZ office and attending industry events. ■



Rob Gregory: delighted to be making a return to DINZ.

Tony Pearse retiring

Long-serving DINZ producer manager Tony Pearse will be retiring from his role later this year after nearly two decades working for the deer industry.

SINCE HIS APPOINTMENT to the position in 2002 Tony has provided the essential glue between the NZ Deer Farmers' Association and DINZ, ensuring that producer interests are effectively represented within DINZ and contributing to the unique cohesion that exists right through the industry.

He's brought that rare blend – scientific rigour, practical farming experience, attention to detail, comprehensive industry knowledge, impressive communication skills, humour and a huge

generosity of spirit – to the job.

Tony's been a tireless traveller putting in countless long hours up and down the country for the good of the industry and building numerous friendships and networks along the way. There



Tony Pearse at Deer Park Heights, Queenstown, during the Next Generation conference earlier this month.

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Mandy Bell appointed to Board

Wanaka deer farmer and vet Mandy Bell has been appointed to the DINZ Board by the Selection and Appointments Panel as a producer representative. She was one of three women in a strong field of five nominees for the role and replaces William Oliver who stepped down from the board after six years.

BELL HAS A lifelong interest in deer and genetics stretching back to her childhood, when she attended the first ever live deer auction. With husband Jerry – a former DINZ director – and their three children the family run 6,000 deer at Criffel Station, breeding and finishing venison and velvet.

She carried her interest in deer through to her profession as a veterinarian, working as a vet student on Alastair Porter’s farm, learning along the way to be “quick on my feet” with the fallow deer. Bell said she has developed a holistic “One Health” view of animal health encompassing people, animals and environment. She also learned much about risk management and strategic skills through various business ventures.

“I have a passion for adding value, strategy development and turning visions into actions. We need to share our visions and identify gaps in science and data before we create a roadmap [to the future].”

Bell has been involved in several high-profile deer industry initiatives, often getting started by confronting a challenge. The first of these was Johne’s disease, which was sweeping through deer herds in the early 2000s. With vet colleague Adrian Campbell, Bell negotiated with deer processors to create a system for detecting and managing the disease, forming Johne’s Management Limited (now DeerPRO). The pair received the Deer Industry Award in recognition of their work on Johne’s.

She was also instrumental in the creation of the Deer Progeny Test (DPT), motivated by a gap in knowledge on deer genetics and heritability of traits. The DPT underpinned the development of deer breeding values and Deer Select.

More recently she was involved with getting Passion2Profit off the ground, and also its precursor, the Productivity Improvement Programme. Until recently she has chaired the P2P Advisory Group.

On the environmental side, she has been part of the Freshwater Leaders Group, helping inform government policy on freshwater. Bell was a keynote speaker at the 2019 “Our Land and Water” symposium and is an adviser to the Our Land and Water National Science Challenge. She is also chair and programme director

of WAI Wanaka, a local initiative that connects urban, rural and tourism entities with community groups and agencies safeguarding lakes and rivers in the area.

She says the challenges facing farmers in meeting requirements on water, greenhouse gases and biodiversity seem overwhelming, but notes it is possible to create efficiencies along the way. “It’s important to have good examples and knowledge of [practical] solutions when policy needs fine tuning.”

Bell said the DINZ Board has a good range of expertise and representation and acknowledged the ongoing importance of the NZDFA in keeping farmers connected with industry efforts to overcome the many challenges being faced. “[As an industry] we are innovators. We make things happen.” ■



Mandy Bell: Leading role in several high-profile industry initiatives.

Tony Pearse: continued

have been few workshops, field days, velvet competitions, DFA branch AGMs, working groups, conferences and other events where he hasn’t been involved – as an organiser, participant or representing deer industry interests. Groups such as the winter grazing taskforce, co-innovation science programme and many others have benefited immensely from his input.

Needless to say that has added up to a deep well of institutional knowledge and experience. Fortunately for the rest of us, Tony has always been more than happy to share that accumulated wisdom

whenever asked, and will be still making it available as needed for the time being.

But to say he’s leaving large shoes to fill would be an understatement. DINZ is now undertaking that very challenge and recruiting a producer manager. (See <https://kin.co.nz/jobs/job-listing/?id=1197102> if you’re interested.)

There will be an official farewell for Tony later this year and we’ll provide full coverage. ■

On-farm focus for Next Generation

by Phil Stewart, *Deer Industry News* Editor

Forty-six keen young people enjoyed a two-day programme on 4–5 August based in Queenstown for the ninth year of the NZDFA-hosted scheme. The dates were just on our deadline so we'll start with a brief photo essay and have full coverage in the next issue.

FOLLOWING FEEDBACK FROM earlier programmes, the emphasis this year was on visiting working deer farms so participants could get more first-hand experience of systems that might be very different to their own. The weather played ball at the group visited four spectacular properties around Queenstown. ■



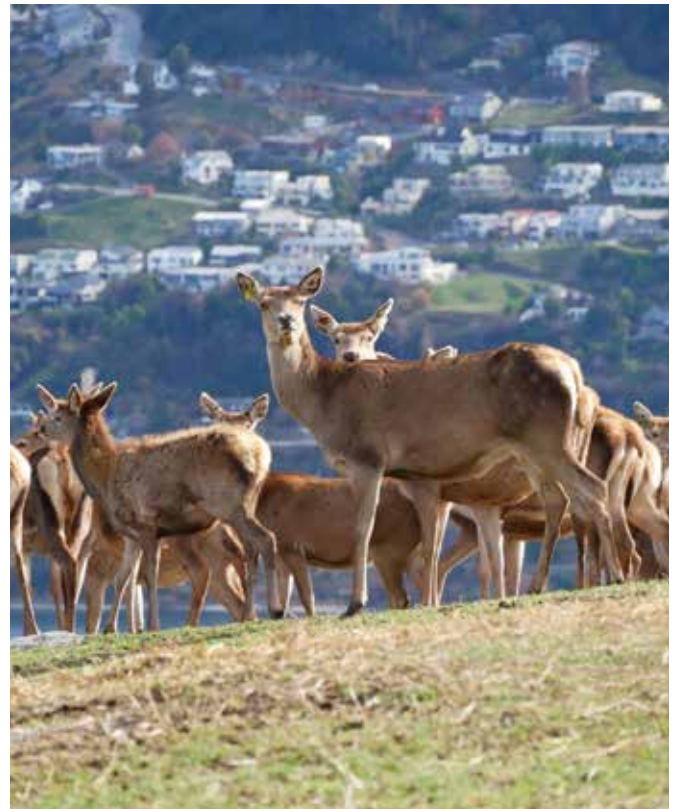
Weaners enjoying the sheltered life at Fairlight Station.



Pāmu Eyre Creek manager Ryan Thomson (centre, arm raised) explains the property's farm system.



The Next Generation participants and hosts at Remarkables Station, most of which is being generously gifted by the Jardine family to the QEII Trust. It will remain as a working deer farm.



Hinds at Deer Park Heights get stunning views over Queenstown.



We made it! From left, Libby Pannett-Millar, Faith McIntyre, Jaime Reid and Emma Foss completed the 2021 Future Deer Farmers Experience before joining the Next Generation programme.

Matchmaking technology saves time, money

When Marlborough deer farmer Tahi Doonan decided to scale back venison farming to focus on deer velvet in the Awatere Valley, it was critical to identify which hinds were passing on the best genetics – he found an economical and effective solution in the Smart Shepherd system.

SMART SHEPHERD USES collar-based Bluetooth technology to accurately identify the fawns raised by each hind – and measures the strength of the mum-offspring bond. It provides farmers with first-time insights into that bond by measuring the frequency of interaction and the distance at which the adults and young interact.

The system can match more than 1,000 young animals a day to their mothers, saving farmers from the time-consuming process of manually matching mothers to offspring. It also provides better information on mothering ability and maternal pedigree.

The collars can be easily fitted before weaning. Once the collar is removed, information is analysed and returned within 48 hours.

Smart Shepherd provides dam pedigree, birth rank and rearing rank and the information can be loaded into any animal performance recording system. Sire pedigree can be included in the results package if the programme single-sire mates the herd.

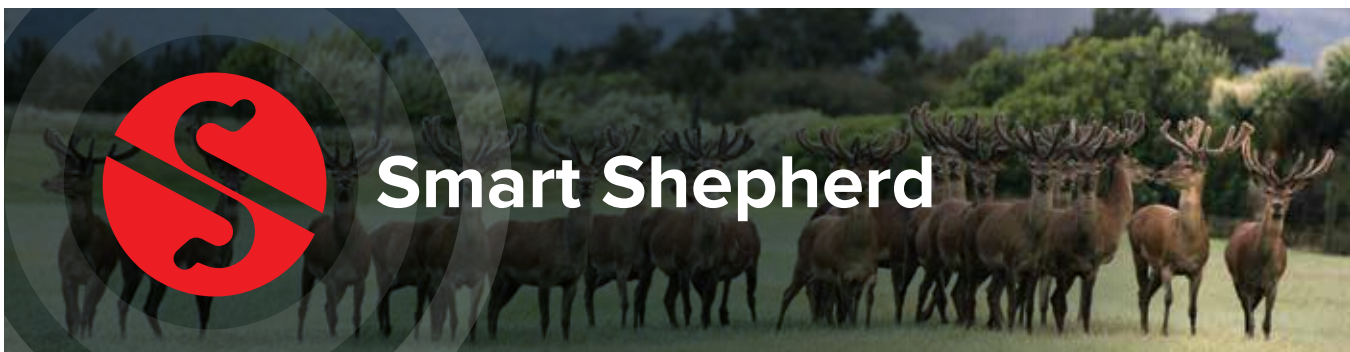
“With velvet you need to know who the mums are in order to

make genetic gains,” says Tahi.

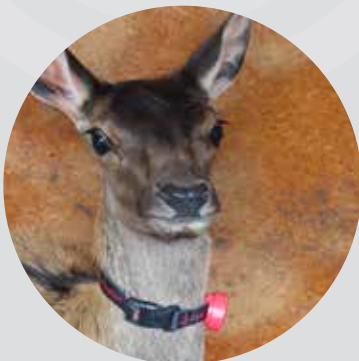
“I single sire and put one stag to 40-50 hinds, so I know who the father is, but previously the only way of identifying the mum was to get out with binoculars and see who the fawns were spending most time with. This is time consuming and DNA testing is costly. Smart Shepherd costs half the price so I see it as a way of becoming more productive for a reasonable outlay.” ■



Tahi Doonan says Smart Shepherd provides a good result for a reasonable outlay.



Smart Shepherd



Good mothers are the heart of any family. Agree? Do you want to identify your top hinds for velvet and venison? Smart Shepherd removes the guesswork so you can make informed decisions, easily identify your top performing hinds and improve your on-farm productivity.

In 48 hours, you can have a rich source of data on hind-fawn interactions, which will create real benefits for your farming business.

To find out more, please contact a member of the Smart Shepherd team.



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info@smartshepherd.nz

Contrasting views from red and blue corners

by Phil Stewart, *Deer Industry News* Editor

Dr **Jacqueline Rowarth** and **Kaila Colbin**, two of the keynote speakers at the deer industry conference in May, are well known for their provocative views and entertaining presentations. They served up more of the same from contrasting viewpoints.

Sticking it to the meat critics

Jacqueline Rowarth decided attack was the best form of defence in her keynote, “In defence of meat” and she came out of the red [meat] corner swinging.

Vegans? “It’s a problem with the brain ... and with reproduction. They might become self limiting!”

[Climate activist] Jack Santa Barbara? “Clickbait!”

Greta Thunberg? “She means well, but she’ll create all sorts of problems, [making] the world worse off.”

School strike for climate protesters? “They’re skipping the lessons that might make them understand you’re not going to fight climate change by becoming vegan!”

Rowarth said going vegan won’t help fight climate change, because the calculations were done based on US feedlot systems. They didn’t account for the extra land that would be needed to grow crops providing protein in the diet, and they also overlooked the additional supplements you need in a meat-free diet to protect the metabolism.

[A recent New Zealand paper¹ in *Sustainability* takes a different view. It used the case of someone transitioning from a typical New Zealand diet at age 25 to either a diet following national dietary guidelines, or to a meat-substituted diet. Doing the latter would reduce the average individual’s lifetime climate warming contribution by 2–4%, the paper said, noting that nutrient differences in a meat-free diet also needed considering. Ed.]

“Early onset osteoporosis is also a problem for vegans,” Rowarth continued.

Fossil fuel use was a far greater issue than animal agriculture when it came to emissions, she said. She noted that improved animal health and husbandry, reduced food waste and healthier diets (don’t overeat animal products) were the way to go rather than abandoning meat consumption.

Next in her sights were celebrity vegans, James (the film director) and Susie (“condition score 2!”) Cameron. The Camerons were still happy to jet between North America and New Zealand, Rowarth observed.



Jacqueline Rowarth: Not convinced veganism will save the planet.

Quoting writer Katharine Milton, she said the success of *Homo sapiens* was down to animal source foods, fuelling our large and complex brains. In an interesting logical leap she then pointed the finger at those notorious vegans, koalas and pandas. “They hardly move at all! We need animal-sourced food to be thinking, active and social.”

While a high proportion of people say they’re interested in plant-based diets, meat consumption was actually on the rise. “There are only about 394 million vegans and vegetarians in the world and there are the same proportion of vegetarians in the UK now as there were when I left.”

[Not surprisingly the Vegan Society in Britain disputes this, claiming that there had been a 400 percent increase in veganism there over two years. UK vegan food sales were up by 1,500 percent in 12 months, according to a 2016 article, which said one-third of the population identified as ‘flexitarian’, cutting down meat consumption. Even in Germany, veganism had doubled in a decade, the society claimed. On its website the Plant Proteins Company says that up to 6 percent of US consumers claim to be vegan, a six-fold increase on the rate in 2014. Other polls put the count at 2–6 percent of the US population. Ed.]

Rowarth also fixed synthetic meats in her sights. “Seriously? Do you think [synthetic meats] look wonderful? It looks like carrots, school rissoles, corn flakes...” She had tried artificial chicken and said it “tasted like twigs”.

The self-declared vegetarian-but-definitely-not-vegan said she would entertain her guests with high-quality venison for dinner, not meat substitutes. She said people like taste, convenience, texture and culture. “When supermarkets are being emptied out, customers still don’t want the vegan food.”

Rowarth said cultured meat has a greater climate impact than the real thing, because its energy source has to come from fossil fuel, cane sugar or maize. “We *should* eat more fibre. That’s the issue with colorectal cancer, not nitrates [in water].”

Environmental sustainability was a lower priority for consumers than things like taste, price and convenience, she said. The real dietary issues were around quality, not meat. For a more sustainable diet, more good fresh fruit and vegetables, dairy, bread, cereals and meat were needed and less takeaway food, according to CSIRO.

Rowarth also said Irish data showed older people needed more meat and dairy rather than alternatives like beans, lentils and nuts. “Those are a poor source of protein, whatever people like Greta

¹ *Sustainability* 2021, 13, 5568. <https://doi.org/10.3390/su13105568>

[Thunberg] think.” And animal protein was more beneficial for lean mass and muscle strength in younger people.

She noted that New Zealand producers are steadily increasing their efficiency in terms of food produced per unit input of feed and fertiliser – another important mitigation against climate effects of animal agriculture. We were also well onside with recommendations in a UN methane report. These measures included better animal health, feeding and breeding, reduced food waste and having healthier diets (still eating animal products, just not too much of them).

Rowarth wasn’t done landing a few punches in defence of meat. The recent ban on live exports? “It was an issue with the boat.”

Immigration policy to bring in more innovators from overseas? “We’ve got very good innovators here – we’re world leaders. We need more immigrants who are willing to work on the land.” Then, on robotics: “We’ve been promised robotic kiwifruit harvesting since 2007; it still hasn’t happened!”

The news media were complicit in spreading misinformation, she said. Executives needed to be prepared to communicate the facts quickly and correct the fictions before they spread too far.

The Government got a brief mention – Rowarth was pleased to see it had delayed water reforms by a year. “We just need to keep doing what we’re doing and providing the numbers. Do the corrections; tell our story; engage with the community and be prepared to respond quickly and constructively to public scrutiny.”

She was surprised to see public perceptions of horticulture coming out ahead of beef and lamb, tourism and dairy. Horticulture, if it replaced animal agriculture, would be producing a lot more nitrogen and emissions, she noted.

• Jacqueline Rowarth’s presentation was sponsored by FMG

It’s exponential my dear Watson

Kaila Colbin, co-founder of Global Boma and CEO of Boma New Zealand, first spoke to deer farmers at the 2017 deer industry conference in Wellington. In a way, her presentation at Invercargill represented a blue [skies] corner in contrast to Jacqueline Rowarth’s red corner.

She reprised some of her 2017 presentation in Invercargill, focusing on the way we handle exponential change (not well) compared with linear change (that’s more like it). In computing, the key metric was now price performance, which was improving exponentially.

She said the nature of exponential growth is that it starts slowly and then takes off, using the often-told 13th-century tale of the grains of wheat on a chessboard to illustrate the point. It’s based on starting with one grain of wheat on the first square and doubling the number of grains on successive squares until all 64 squares are filled. Of course by the last square, the number is astronomical: eighteen quintillion and change, equivalent to about 1.2 trillion tonnes if you must know.



Kaila Colbin: Upbeat about new technologies and food trends.

It’s the second half of the chessboard where the effect of the doubling really takes off. Colbin illustrated this by getting the audience to guess how much wheat there’d be halfway through, on square 32: it was a mere 279 tonnes, or about 4.3 billion grains.

These principles applied to plenty of technology areas outside computing – photography and solar energy for example. Then there are the alternative proteins.

In stark contrast to Jacqueline Rowarth, Colbin was upbeat about new technologies producing alternative proteins, which attracted \$3bn worth of investment in 2020. She quoted a new report co-authored by Boston Consulting Group that predicts the world alternative protein market will be worth US\$290 billion by 2035, accounting for about 11 percent of the protein market.

Impossible Foods had grown from supplying its plant-based burgers to 150 US stores, to 17,000 stores in 2020, more than a 100-fold increase in a year. “The plant-based products are definitely ready for market prime time, not so much the lab-grown meats.”

The idea of food as medicine was also growing fast, Colbin said, noting that fully 88 percent of Americans are metabolically unhealthy, so there’s a ready market there.

She was also optimistic about new technologies such as the electronic collars being worn by cattle and the possibilities for virtual fencing.

The recent Boma NZ Agri Summit in Christchurch featured a line-up of speakers who Colbin used to illustrate her points about innovation and then transformation. There were some compelling examples such as John Deere’s Alexey Rostapshov, who predicted herbicide use could be cut by up to 77 percent if artificial intelligence was applied to spraying technology.

Dr Ian Yule, Plantech Research, was promoting the use of hyperspectral imaging to accurately detect things like changes in soil fertility (indeed, he had done this on a deer farm, Steve Borland’s property at Oparau).

Steve Meller, founder of CH4 Global, is looking at using aquaculture to help reduce methane emissions by 90–95 percent using *Asparagopsis armata* seaweed to feed cows (Jacqueline Rowarth dismissed this idea as impractical in her earlier address).

Dave Maslen from NZ Merino helped develop ZQRX, a platform for farmers to track their regenerative agriculture journey. “It’s not an audit or tick box exercise – there has been fantastic uptake of this from some sheep farmers.”

Also talking regenerative agriculture at the Boma NZ Agri Summit had been Mike Taitoko from Calm the Farm, who has been talking to investors about mapping data to track a property’s progress towards sustainability targets.

Taitoko had told his audience that “regenerative agriculture is a train that’s already left the station”. Colbin said it doesn’t matter whether you approve or not, “that and areas like climate change mitigation are what the market is responding to”.

Ultimately it comes down to people and the kind of world they want to build, Colbin concluded. She used the example of Geoff Ross (42 Below founder) who has bought Lake Hawea Station with a view to making it climate positive. Other Agri Summit speakers had supported the same broad objective: “What if, instead of defending the problem, we attacked the opportunity?”

• This article was held over from the June/July issue for reasons of space. We’re sorry for the delay in publication. ■

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