

Deer Industry News

Unlocking venison potential in China



Venison in the UK
ALLIANCE PARTNERS
WITH NZ BEER
COLLECTIVE IN CLEVER
UK VENISON PROMOTION

Weaner Sales
DEMAND FOR STAG
WEANERS BOUNCES
BACK, BUT CAUTION IN
MARKET FOR HINDS

Immune Function
INITIAL RESEARCH INTO
VELVET EFFECT ON
IMMUNE FUNCTION
HIGHLIGHTS GOOD LEADS

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Deer Industry News

OFFICIAL MAGAZINE OF DEER INDUSTRY
NEW ZEALAND AND THE NEW ZEALAND
DEER FARMERS' ASSOCIATION

ISSUE 113 | APRIL/MAY/JUNE 2022
ISSN 1176-0753

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Cover: This is fire water boiled venison, cooked in the spicy Sichuan style of southwest China. It's one of dozens of new venison recipes developed to suit Chinese tastes. See page 4 on the work being done to better understand Chinese consumers and get venison on their menus.

Deer Industry News is published by Deer Industry New Zealand in February, April, July, October and December. It is circulated to all known deer farmers, processors, exporters and others with an interest in the deer industry. The opinions expressed in *Deer Industry News* do not necessarily reflect the views of Deer Industry New Zealand or the New Zealand Deer Farmers' Association. All content is copyright and may not be reproduced without permission and attribution.

EDITOR Phil Stewart, Words & Pictures

LAYOUT Rory Stewart

Unfair emissions burden on extensive farms

The NZDFA Executive has been heavily involved in putting forward an alternative and fairer option for He Waka Eke Noa (HWEN).



John Somerville.

WE HAVE TEAMED up with beef and lamb farmers, many from the Beef and Lamb NZ Environment Reference Group. Like us, they are dismayed at where the HWEN process had ended up, with two unsatisfactory options for farmers.

HWEN was established to come up with an alternative to putting agriculture in the ETS with its risk of exposing us to high carbon prices and limited sequestration options. (See more detail about HWEN on page 15.)

The problem has been that the so-called pan-industry approach has been hijacked by intensive farming with a big push for emissions per kg of product produced. This means that intensive farming like dairy has a huge advantage over extensive systems (like most deer farms) which actually are lower emitters per hectare.

Extensive properties have limited options to reduce emissions apart from destocking or planting pines. Intensive groups defend their position by highlighting their efficiency per kg produced. Intensive systems have huge inputs outside their farm's own natural grass-growing curve to achieve a high output of kg per hectare, producing high emissions plus local environmental impacts. These systems have a lot more levers to pull to reduce their emissions.

The whole process has been frustrating for us. It seems that HWEN disregards practical options and listens to powerful intensive farming views. These rely on trees planted on extensive farms to offset their emissions and a hope that research on technologies such as methane inhibitors will solve agriculture's liabilities.

We believe farmers have to be responsible for their own emissions and receive credit for all their plantings – not just from 2008 but from 1990. Any mechanism for working out farm liabilities or credits should be related to our actual ability now, with the tools we have to work with. It shouldn't be based on technology that may or may not happen or be practical.

For most farmers this process has been very hard to take in, as everyone is overwhelmed by the tidal wave of compliance costs and requirements that have hit farming in the past decade. When you talk to farmers about HWEN, many have a glazed look and hope it will go away. Unfortunately this is the most important legislation in their farming lifetimes. If it goes wrong and we allow powerful lobbies to win, extensive farming will have no future on many enterprises.

It is so important to understand what this means for your business and to support our endeavours to bring common sense to this process. We need a fair balance for both intensive and extensive properties while all remain profitable.

What should New Zealand farming look like? Do we want productive hill country in pines and intensive farming carrying on with not much change? Or do we want farming that fits its environment and is stocked to its natural growth curve with trees and other plants that are appropriate for our landscape?

For more detail on our option 1 transformed: www.abetteroption.org.nz ■

– John Somerville, Chair, NZDFA Executive Committee

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Demystifying the Chinese consumer

by Ali Spencer, *Deer Industry News* writer

Relatively unknown in China, New Zealand venison can be unlocked for consumers there by appealing to their love of food, travel, diet as a part of a holistic approach to health, and gift-giving.

CHINA, A RELATIVELY new market for New Zealand venison, was its fourth largest market by volume (1,686 tonnes) in the season to end September 2021, up by 27 percent on the year earlier.

“Business is building and we could soon be looking at the third-biggest market,” DINZ venison marketing manager Nick Taylor says. “But we are starting from a low base,” he observes.

The Mandarin speaker, who learned the language first at school, then followed it up at the University of Canterbury, is well aware of the challenge ahead for New Zealand venison in the massive country. Work has been underway on a number of initiatives in the giant market, both pre-Covid and also as part of the Passion2Profit venison repositioning programme.

“Hardly any Chinese consumers are familiar with farm-raised venison and need to be encouraged to try it through education about its benefits and attributes.”

Finding out what “makes the Chinese consumer tick” is important.

What do Chinese consumers look for in a product?

Silver Fern Farms’ brand and communications manager for China, Carrie Song, has been demystifying the Chinese consumer for head office staff over intra-company lunches in a Dunedin Chinese restaurant. These have featured traditional Chinese dishes, including beef, lamb, venison, chicken and China’s most widely eaten meat, pork.

China has a “great food culture,” Song explains. It is constantly talked about. In the cities, large and small, people love to eat



Claire Tan, head of marketing China (left) and Carrie Song (right), look after the Silver Fern Farms brand and communications in China and the rest of the world. Tan is a graduate of Manukau Institute of Technology. She spent 10 years living in New Zealand between 2002-2012 and now lives and works in Shanghai.

out when they can, more than they eat at home, especially for a gathering.

“Chinese people love to travel and, when they do, they like to try something new. The first thing they do includes consulting restaurant guides online to book for a delicious meal.”

Originating from Central China, Song graduated from a Beijing University before arriving in New Zealand in 2018 and joining the Dunedin team in April 2021. She is part of the Silver Fern Farms China marketing team, many of whom are based in China. The team is headed by Claire Tan, who says venison is rarely seen in restaurants in China.

Relatively unfamiliar to today’s Chinese consumers, literary references have positioned venison in their minds as a premium product enjoyed by emperors.

A well-known traditional Chinese novel, *Dream of the Red Chamber*, written over 200 years ago, tells the story of a big family and talks about food, the big dishes and how they celebrated.

“One chapter mentions them receiving venison, with the hero, Baoyu, and his cousin eager to roast it in the snow,” Tan explains.

That story has been retold many times and now has TV and film versions. “It’s a great way to introduce venison,” she says.

While Chinese people do not know much about venison, those who have read the book or watched the story on television might be prompted to try it when they see it in the supermarket.

Another important aspect of Chinese culture is gift-giving, particularly at holiday time and especially at Chinese New Year, which this year fell on 1 February 2022, heralding the year of the Tiger.

Chinese consumers are:

- Food-loving
- Gift-givers
- Travellers
- Digital netizens

Before China opened up to the rest of the world, Chinese people would visit parents and grandparents, bringing a basket of traditional food or the best food they could find or make, to share with family. This might have been a whole lamb carcass or a quarter of pork. This tradition continues today, but the gifts have often changed to money, ranging from a few dollars to several thousand. Gift packs of premium food items like meat, fruit and tea are also given, especially imported ones, as more international brands enter China.

Venison gift-packs a hit for SFF in China

Combining Chinese people's love of food and gift giving paid off for Silver Fern Farms' new premium retail venison gift-pack launched before Christmas last year.

Silver Fern Farms meat packs of venison cuts had been trialled in Chinese supermarkets for a couple of months, but with little promotional activity linked to them, they had not done as well as expected.

Late last year, new gift packs were introduced for venison, with the colour changing from blue to red – the traditional Chinese colour associated with passion and happiness. A “festival atmosphere” was created, Carrie Song says, with videos online and instore to give more information about what was in the box and where the product came from. A small cookbook was also included, for people to try the recipes.

Song reports the new presentation “was a big success” at its release last Christmas, both in Sam's Club retail stores and on the supermarket's app. It was repeated for Chinese New Year.

Sam's Club highlighted New Zealand venison as the number one recommended ingredient for families to try this New Year as part of their celebration dinner. It was shown on social media platforms and in their 30+ stores in major Chinese cities.

“We expected to be on the list, but to be #1 was unexpected,” says Song, who added it felt like it was going to go even better than Christmas. She was right. Within the first two weeks of the promotion, “We sold out on their app.”

With family reuniting from all over the country for holiday celebrations, New Year has always been the most important occasion, says Song.

“Amongst all the New Year celebrations, Chinese New Year's Eve dinner is the biggest thing. They love to have something new and have something different to try each year.”

Over 6,000 gift packs were sold during the period, she reports. “Most importantly, we were able to raise the awareness of New Zealand venison through the integrated marketing promotion so more consumers were able to see it was starting to become available in the high-end market.”

The activity has positioned New Zealand venison as a premium product, says Song. “Sometimes the consumer will buy it to try, but when it is bought as a gift they are grateful to the people who gave it to them so more and more people get to know New Zealand venison.”



The Sam's Club app was pointing customers towards the venison gift box last Christmas.

Silver Fern Farms will continue to promote venison at retail in the coming year, through gift packs and new products, says Song. There will also be further media promotion.

Engage through Shi bu

Another way of engaging with Chinese consumers familiar with the use of deer co-products in Oriental Medicine is through *Shi bu*, the Chinese concept of supplementary nutrition through food.

“The nutritional and historical values related to deer and medicine are definitely worth talking about with consumers,” agrees Lu Chen, a key account manager with Shanghai-based brand consultancy Tribal Brand Asia. She leads the agency's work with DINZ on positioning New Zealand venison for foodservice in China.

“Many Chinese consumers have not tried venison before and are unfamiliar with farm-raised venison.

“We have a long way to go to educate Chinese consumers and determine the positioning of venison in Chinese cuisine,” she notes.



Fire Water Boiled Venison, Lu Chen's favourite dish from the 40–50 new venison recipes developed in Tribal Brand Asia's work, is cooked in the spicy Sichuan style of southwest China. Shortloin or round of venison is thinly sliced and flash-boiled and cooked with mushrooms and chillies, the signature of the Sichuan dish.

“When you hint that the taste and smell comes from the richness of iron in the blood, for example, they start to look at venison in a completely different way. After they taste it, they find it can actually be quite filling, even with a small piece, and that it's low in fat.

“New Zealand venison is a premium product that appeals to China's 'conscious foodies', the people who spend a little more on food to get that experience, between friends and family and cooking for the family.”

For them, New Zealand venison is premium on price and also on its nutritional/medicinal attributes. Venison's distinctive flavour, with which most would not be familiar, is another premium factor, but ranked lower in importance than the first two.

Go digital

Another factor of note is that Chinese people are “digital netizens”, with most getting smartphones over the past three to five years and living most of their lives online, says Chen. “After initially just

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Demystifying: continued

finding things of interest, they now have more vertical interest. They know what they're interested in and will go onto those platforms and search for the information."

Chen says Chinese consumers are "digitally social".

"But they greatly care about family values. Everything they do, whether it's trying new products, cooking things or making consumer choices, they care a lot about the products they buy and they look out for the nutritional information and how it benefits them when they choose it.

"If they're willing to spend money on imported products or premium products, they're looking at the point of difference the product will make, on the health and well-being level."



Tribal Brand Asia's Lu Chen (right) with chef Wei Luo of Incubation restaurant, one of the six Chinese chefs who came up with new Chinese recipe concepts for New Zealand venison. The former sous-chef from Shanghai's Radisson Hotel had previously worked with venison and is confident working with it.

"Head" dish on a banquet menu

Within the next five years, New Zealand venison will earn a place in foodservice as a "head" dish on a four- or five-star banquet menu, the traditional sharing style of meal in China, Lu Chen believes.

"It should be a common dish on that menu."

DINZ new product development over the past two years, as part of the P2P programme, has seen the development of 40-50 recipes with a number of chefs. This has pinpointed the popular Sichuan and Cantonese styles of cooking, from the southwest and southeast of the country as the most suited to venison dishes.

Work in this area has been disrupted by Covid-19, with snap lockdowns imposed again in first tier cities such as Shanghai and Beijing at the time of writing.

In the meantime, Chen is continuing work on building a New Zealand venison information hub on social media platform WeChat, "where brands communicate with everyone," and push out all the prepared material in photo and video form to continue educating about venison.

"With venison being such a new protein for chefs, they often don't know how to talk about it, or describe it," says Nick Taylor, adding a key project for DINZ is to develop venison tasting notes. "Based on similar tools used for wine, it will help provide chefs with the language to use when describing venison."

Other DINZ work underway this year includes organising chefs' workshops and chefs' table events in Shanghai to educate them how to handle New Zealand venison, along with new venison cut videos to support the products exporters are putting into China. ■

Pre-orders open for Meeting Change

PRE-ORDERS ARE NOW open for Ali Spencer and Mick Calder's new book *Meeting Change: The New Zealand Red Meat Story 1997-2022*. (See *Deer Industry News*, February/March 2022, p22 for more information.)

It will be available in hardback (NZ\$69.99) and paperback (NZ\$49.99) in New Zealand from late June/early July.

Deer Industry News readers can pre-order *Meeting Change* for 10 percent off the cover price until the end of June by using **MC-DIN22** at <https://meetingchange.nz>, where they also sign up to the mailing list to receive launch alerts and other news. ■

- **Article supplied**



The new book will be out in late June.



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It's a wrap! Velvet value up 20–25 percent

by Ali Spencer, *Deer Industry News* writer

The New Zealand velvet season has wrapped up well, with the value of exports set to be up 20–25 percent on the previous year, reports DINZ manager markets, Rhys Griffiths.

THE STRONG DEMAND reported in our last issue continued right to the end of the season. “This will help with the rising costs on farm, as goods get more expensive and inflation increases,” Griffiths notes.

Another positive point was most of the velvet held in New Zealand stores has now been shipped to customers. Exporters still face some disruption, particularly in China, even though the major Dalian port has now re-opened.

“The Chinese government recently brought in stringent new Covid-19 measures. These affect the whole cold chain, especially food processing factories importing product to China, which will impact on processing capability.”

As one of the last Western countries transiting from its elimination strategy for Covid-19, at the time of writing, Griffiths says New Zealanders can respect the Chinese government’s wish to maintain its stance. As cases rise in China, some provincial snap lockdowns and more restrictive measures had been introduced.

Among those confined to quarters in the Shanghai province lockdown is the New Zealand Deer Velvet Coalition’s representative Felix Shen, who has been isolating in a Shanghai apartment with his family for several weeks, with regular testing. “They can now start to go out of the apartment, but they have to stay within a certain section of the quarantine departments.”

In contrast, South Korea, the main consumer of New Zealand velvet, is starting to ease restrictions, such as numbers at events

and how late restaurants can open. However South Korea recently topped 600,000 Covid-19 cases – one percent of the population – in a single day in the latest wave.

“The hope is they’re going to reach a peak and get out the other side. We are concerned about our friends and customers over there, but there are also economic implications, as there are for everyone around the world. We’re monitoring what this might mean for New Zealand velvet in the coming season.”

Another thing he will be watching is the impact of sanctions and trade restriction on Russian exports. Russia is New Zealand’s main competitor for velvet in Korea. While it is early days, he says the conflict could negatively affect Russian velvet. “It will be interesting to see what the Korean consumer reaction will be.”

Griffiths is now turning to planning for the 2022–23 season. Over the next couple of months he will talk with the sector’s healthy food partners in both China and Korea to set up promotions, particularly around the Korean autumn harvest festival of Chuseok. ■



Despite the logistical challenges it's been a strong season for the New Zealand velvet industry.

We're hitting the road!

WE'RE SHAKING THINGS up this year and have replaced the usual national conference with several half-day regional DINZ Road Trip events throughout June.

Representatives from DINZ, the DINZ Board and venison/velvet marketing companies will be there to provide industry updates and answer your questions, along with DINZ chef Graham Brown who will be cooking up a storm (and venison!).

Save the date:

1 June: Palmerston North/Feilding

2 June: Taupo

8 June: Winton

9 June: Wanaka

15 June: South
Canterbury
(location TBC)

16 June: North
Canterbury
(location TBC)

There's more information to come, so keep an eye on the Deer Industry Events page: www.deernz.org/home/events



Logistical hurdles but exporters confident

by Ali Spencer, *Deer Industry News* writer

Covid-19 disruption and, most recently, the conflict in Ukraine, are presenting hurdles all the way along the cold chain for exporters. They are having to nimbly find solutions for difficult logistics challenges to make sure they can meet the strong recovery in demand for New Zealand venison, as foodservice reopens around the globe.

IN NEW ZEALAND, most anticipated that processing plants' labour issues would ease by Easter as the Omicron variant outbreak peaked and moved through from north to south. Southland plants will be the last to experience the wave.

Close communication from processors to their deer suppliers was keeping farmers informed about processing delays and relatively patient, in the circumstances. Heavy rainfall in the North Island had eased concerns about feed, as there was plenty of pasture on hand. This was balanced, however, by the worst drought in Southland for the past 35 years.

Upcoming weaner sales around the country were also focusing minds – some farmers were struggling with how much space would be available on farm for the new animals and the new season.

Schedule forecasts would be helpful with those buying decisions, noted Duncan NZ general manager marketing and operations, Rob Kidd.

“We remain cautiously optimistic that the chilled season this year could see a helpful increase over current levels,” he says, also noting, “a renewed enthusiasm in deer farming as a key livestock for on-farm diversity and long-term returns.”



Robb Kidd: Seeing renewed enthusiasm for deer.

Critical challenge for logistics

Behind the scenes, the race to market is a critical challenge for the exporters' logistics teams arranging production and despatch, and salespeople trying to keep overseas customers happy.

The teams should be praised for the work they are doing to keep on top of the situation, “which changes sometimes several times a day,” says First Light general manager venison, Matt Gibson.

Everything is being impacted by delays, he says, with exporters mentioning staff Covid-19 absences around the globe affecting lack of equipment, delays with packaging materials, getting containers loaded at the plant with staff away, or containers loaded onto ships. This extends through to ship delays, port delays – or complete misses – and then unloading and trucking to distribution and customers.



Matt Gibson: Logistics teams deserve praise.

“A butterfly flaps its wings here in New Zealand and a cold store has three people who don't turn up for work in the morning and they can't load a container,” explains Gibson.

“You lose a booking and that can affect your arrival date in Europe by three or four weeks. It's an everyday problem-solving challenge for our logistics team, who are doing a fantastic job keeping customers up to date. They're tenacious and communicate really well.”

Alliance Group sales manager Terry O'Connell observed one of Europe's main ports, Rotterdam, was congested with vessels wanting to offload supplies for Ukraine, which could not accept them, though Felixstowe in the United Kingdom was now clearing.

US port Long Beach is also a “shambles”, he says. “The trouble is once the decision is made to access the next port, such as

Oakland, to avoid delays, you are just moving the problem along.”

To reduce pressure on the US West Coast, Duncan NZ was shipping through the Panama Canal into Houston, which was useful during the pandemic, “but ultimately very expensive and not sustainable long-term,” says Robb Kidd.

Getting product from A to B in-market, once it is cleared through the port, has also become more difficult. Truck drivers are in short supply generally because of Covid-19 absences. This is also happening in the UK after Brexit and in Europe generally as Ukrainian drivers have returned to defend their homeland.

“All of these things have more than one cause. It’s all about finding solutions, but that’s not without cost,” says Mountain River Venison marketing director, John Sadler.

Freight rates have, in most cases, more than doubled, but even so most companies are considering airfreight, especially for high-value chilled venison, to ensure chilled product is not held off port waiting for offload and consignments can be relied on to get to customers on time. This all eats into the companies’ slim margins, however.

Kidd expects this situation to continue for the rest of 2022. “Given the underlying issues causing these prices, [the freight rates] are not likely to reduce for the remainder of this year.”

Mitigating with frozen

Gibson is thankful the majority of First Light product currently being sent offshore is frozen rather than chilled, but sees challenges ahead, especially from August onwards, when large volumes of chilled product start to be sent to Europe.

“Logistically, it’s going to be quite challenging, particularly with the changes at Napier Port as that means we’re going to have to shift the bulk of our chilled product out of Tauranga.”

To mitigate the risks in this environment, most customers and exporters are moving towards shipping more frozen product, which can be tempered by customers as required.

Mountain River Venison’s US customers, “have struggled to have a cool chain to suit chilled venison,” says Sadler. The exporter is also fitting its production schedule to shipping, not the other way around as previously, especially for airfreight. “If you book the space, you have to pay for it and use it,” he notes.

Business uncertainty around risk of disruption

The uncertainty for businesses is around the risks of disruption, notes Sadler. “The challenge is getting the returns up and that takes time. We want to make [the sector] more sustainable.”

Both Sadler and Gibson referred to a doubling of the order period from the normal 2.5 months to over 4.5 months.



John Sadler: US customers struggling to have a cool chain suited to venison.

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Logistical hurdles: continued

“When the customer orders more than usual to get around the issue, that creates even more problems for production at the New Zealand end,” notes Gibson.

As more product is delayed here in New Zealand, the ripple effect gets amplified as it moves further down the supply chain.

“You process something one week, pay the farmer two weeks later and then sometimes the product isn’t arriving to your customers until six to eight weeks later than it normally would, so you don’t get paid for it till later. The little details you don’t think matter are a very big deal.”

The “unpredictable constant”, and recently helpful for the New Zealand venison business, is the exchange rate, with the New Zealand dollar staying under 70 US cents, says Sadler. However war in Europe has weakened the euro.



Mountain River Venison destined for Long Beach, United States, being loaded into the container at Mountain River Processors.

“Ludicrous” airfreight rates

All those interviewed criticised freight providers, especially for the “ludicrous” airfreight rates, according to Gibson, and shipping lines’ “extraordinary behaviour” in the words of Alliance Group’s Terry O’Connell.

Sadler noted shipping lines were operating three-monthly rather than annual contracts, with rates rising at each negotiation.

Sometimes overnight, shipping companies are deciding to drop New Zealand port visits without consultation, in order to catch up on sailing schedules.

In addition, with shipping containers misplaced all around the globe, venison exporters are being pushed to use 40-foot containers, at significantly higher cost, as opposed to the 20-foot containers, which were most efficient for bulk packing of ground meat.

It is a “false economy”, says Gibson, who gave the example of trucking in the United States. While the space is doubled, US trucks can only handle 1.2 times the weight they were moving in 20-foot containers. “It adds a lot more cost for no net benefit.”

To maximise available shipping space, Duncan NZ had partnered with two other companies to co-load product (meat and other items) to both European and US markets. “This has proved effective and ongoing partnerships remain,” says Kidd.

Silver Fern Farms’ long-time involvement in the Kotahi shipping co-operative alongside Fonterra in partnership with

Maersk Lines gave its supply chain resilience. But given venison’s status as a niche perishable product, other exporters are stuck with the system – unless they considered following beef and sheepmeat exporter AFFCO’s lead and chartered their own ship. However, with ships in short supply, charter rates would also be astronomical.

Confidence in the outlook

Despite the hurdles, exporters are still getting venison to its destination, where re-opening of markets is ensuring good demand. All were confident about the outlook for venison.

Business was “flowing really well,” for Mountain River in Scandinavia, which largely reopened earlier this year.

By the end of March, Alliance Group had concluded its frozen negotiations to all key European customers. O’Connell reported that, “while it has taken a while, the China and US retail programmes are drawing product away from traditional markets and gaining momentum.”

The spread of markets has reduced potential exposure and is ensuring stability as the sector moves towards the 2022 game season. For O’Connell, the ideal market blend would be in thirds – US, China and the rest of the world – “along with a nice combination of foodservice and retail”.

Grass-fed meat, including venison, could potentially get a boost with anticipated increased grain prices.

These could come about through Ukrainian wheat fields being unplanted, Russian wheat subject to sanction and grain being diverted from animal feed for human consumption.

But there are negatives too. Snap Covid-19 lockdowns recently imposed in Shanghai and Beijing add another “layer of uncertainty,” says Sadler.

Other inflationary pressures rippling out from the Ukraine war on to energy costs could affect farm input prices in New Zealand and could also mean European consumers “might not be able to afford to eat out as much,” says O’Connell.

However, Kidd thinks venison will not be significantly affected “due to its niche positioning relative to the staples we do see affected”.

O’Connell is also convinced the underlying demand for protein will remain firm. He is looking forward to the first test: the 2022 European game season in August/September.

He is heading to Europe in August for the first time in three years, ready to focus with his customers on their orders for Christmas and the New Year in the most volatile market he has seen since 2007–2008 and the Global Financial Crisis.

“We’re selling something people want and need to get some stability around it.” ■



Terry O’Connell: US and China venison programmes gaining momentum.

Venison tenderloin sells out fast in United States

by Ali Spencer, *Deer Industry News* writer

Venison tenderloin sold out fast in First Light Foods' new US online store after its launch in March of this year.



Matt Gibson turning his hand to outdoors cooking in a New Zealand photoshoot for the US range.

"THOSE WHO ARE buying it, think it's a great food discovery," reports First Light general manager venison Matt Gibson, whose team has received plenty of positive feedback.

"Often, people who take the plunge and haven't had it before are pleasantly surprised by the mild flavour and tenderness. They're expecting a very gamey experience and what they get is something quite different," he says.

Eight new venison cuts were added to the First Light e-commerce website and all have been well received, especially the two top sellers – the tenderloin, which sold out quickly – and the tri-tips. Racks – available in five-, eight- and 10-rib formats – "are always a good seller; they go quickly," says Gibson. Striploin, shortloin and diced venison are also available now for US consumers, with ground venison and meatballs waiting in the wings for launch later this year.

This is the second year of direct-to-consumer venison activity in the United States. In the first 12 months, US consumers were able to buy venison five-rib racks and meatballs via the company's subscription-based Steak Club, which has been successful in building sales for its Wagyu Beef line. Building the venison sales database

ready for the launch of the new First Light e-commerce channel in February was another focus.

In preparation for the launch, fresh venison photography and half a dozen new videos were produced last month to tell the New Zealand venison story. Half are already up on the website with the rest poised to be sent out, in a dedicated public relations push in April to Steak Club customers.

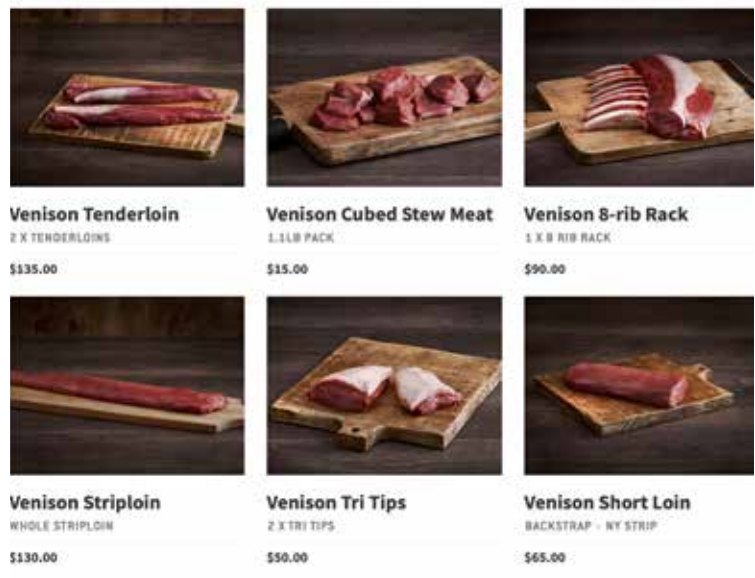
The company's targets, "craft consumers", include health and hunting groups, alongside selected foodie influencers. The latter will soon receive tasty First Light Venison packages, including recipe information, "that they can play around with at home".

This initiative also received support from DINZ's Marketing Innovation Fund.

To ensure sufficient venison was available, a small quantity was airfreighted to the United States, but First Light's relationship with its California-based processor Atkins Ranch will see the processor working with most of First Light's raw material in-market and distributing the products.

The new channel is another way of increasing awareness and driving sales for in-store First Light Venison products, notes Gibson, who spends a lot of his time and energy making sure First Light gets the right mix of cuts to maximise returns.

The \$400,000 DINZ Marketing Innovation Fund is also helping Mountain River Venison and Alliance Group activities this year. ■



First Light's new US e-commerce website, <https://steakclub.firstlight.farm/the-store/>, is selling New Zealand venison directly to its US "craft consumers".

Venison marketer overcoming UK sales barriers

by Trevor Walton, *Deer Industry News* writer

Deer and venison have deep roots in British tradition. Kings and nobles. Hunts in royal parks. Peasant poachers. The Monarch of the Glen.

BUT FOR ALL the tradition – maybe because of it – New Zealand venison exporters have struggled to get a secure foothold in the British venison market.

It's not for want of trying. Successful retail supply contracts established with Marks & Spencer and Waitrose by one of our marketers in the early 2000s fell over a few years ago when both retail chains decided to stock only locally raised meat. Demand for New Zealand venison in the United Kingdom was also stymied by Brexit, which saw a big increase in UK wild venison being sold on the domestic market instead of being exported to the continent.



A world away from the traditional fare you might be served in a swanky London hotel restaurant. Venison loin martinis (top) and venison sushi.

Large fluctuations in export statistics for both quantity and value (see Table 1) reflect the stop-start nature of UK venison demand – a pattern that has been amplified by the impact of Covid on food service.

Despite this history, our marketers are continuing their efforts to gain traction in the United Kingdom. In recent years Alliance Group has made it something of a focus for venison market development – a commitment that won some publicity in late February when Alliance partnered with the NZ Beer Collective (New Zealand brewers who export to the United Kingdom) to celebrate New Zealand Beer Month.

The canapés made from the Pure South venison they served at the closing party held at the New Zealand High Commission penthouse suite, London, were a culinary world away from the traditional heavily marinated venison and juniper berry dishes you might get at a swanky London hotel restaurant.

To tie in with the beer theme, Alliance provided food that gave a nod to beer and beverages, such as venison loin in a miniature martini glass. Each of the dishes was paired with a beer from NZ Beer Collective's range.



The glamorous end of market promotion: the London High Commission penthouse suite, great venison and beer, plus a kapa haka performance.

Year	Chilled venison			Frozen venison		
	Quantity (kg)	FOB value (NZD)	Per kg (NZD)	Quantity (kg)	FOB value (NZD)	Per kg (NZD)
2017	73,948	1,093,441	14.78	728,638	8,176,398	11.22
2018	15,179	259,145	17.07	268,709	4,963,004	18.46
2019	3,185	134,968	42.37	359,148	6,063,062	16.88
2020	786	24,466	31.12	707,677	7,571,780	10.69
2021	12,903	204,516	15.85	801,887	5,337,215	6.65

FOB = Free on board (value of meat at point of shipment)

Table 1: Farmed venison exports to United Kingdom 2017–2021 (calendar years)

DINZ's Berlin-based kiwi chef Shannon Campbell travelled to London to work with Alliance's team and talked to the guests about what makes New Zealand venison so special, including the free-range disease-free environment in which it is raised and the high quality-assurance standards of the industry – a point he emphasised by serving the 120 guests venison tartare and venison sushi.

The guests included New Zealand Trade Commissioner Nick Swallow and high-profile current and prospective customers of both Alliance Group and the NZ Beer Collective. A performance by the London-based kapa haka group Ngati Ranana captivated the guests.

Functions like this are the glamorous end of market development which, in order to have any chance of success, requires solid market research. Gemma Baldwin, Alliance Group's regional marketing manager for the United Kingdom, says this has revealed that:

- Venison consumers tend to be “very mature” (65-plus). Most are in London and consume 44 percent of all venison sold in the United Kingdom.
- Venison is seen as a premium protein that is five times more likely than other red meat to be eaten as a treat or for a special occasion.
- Venison is twice as likely as other red meat to be eaten for health reasons.
- Venison retail sales in the UK are growing – up about 30 percent in 2021 compared with the year before.

In December 2020, Alliance did a venison price audit across seven UK retail outlets, among them household names like Aldi, Ocado, Sainsbury, Tesco and Waitrose. This revealed the wide range in prices for similar UK venison packs, as well as the opportunity for marketers who get their product and positioning right.

For example, two Scottish venison steaks weighing about 150 g each might cost as little as £2.60, or £8.67/kg. On the other hand, a single Scottish venison rump steak weighing 130 g, packed with a chocolate butter pattie, might set you back £5.25 or £40.38/kg. It all depends on the magic created by the marketer.

Clearly, Alliance is aiming for the highest price the market can sustain in the long term. To achieve this, the company is working to create demand in several market segments at the same time.

One of the most important of these is the younger, health-conscious, consumer who is open to new culinary experiences.

“We have grown overall venison sales in the United Kingdom in the past couple of years by securing the supply of Pure South NZ farm-raised venison into HelloFresh. This has enabled us to experiment with what works best with these younger affluent consumers – which recipes, which cuts, the right portion size and so on,” Baldwin says.

“Meal kits overcome the fear of failure that puts cooks off trying something new. They are provided with every instruction they could ever need, so they have a great meal experience.”

Sales through HelloFresh were slow to start, but are now gaining momentum. HelloFresh now has a strong venison offering – burgers, meatballs and so on – all made from New Zealand farm-raised venison.

A side benefit of the HelloFresh experience is the confidence it gives home cooks to also purchase venison in restaurants and

retail. To cater for this, Alliance is developing a newly branded retail range for the United Kingdom that will be positioned to emphasise the nutritional qualities of venison.

Baldwin says this new range, which is destined for high-end retail chains like Ocado, will have strong farmer-to-consumer messaging and pack QR codes.

“These will link to a website that provides more information on the brand, the nutritive value of venison, information about supplier farms and their high standards of animal welfare and environmental care, as well as a recipe hub.”

Shannon Campbell has helped the Alliance team develop the recipes for the hub.

This focus on the health-conscious young does not mean Alliance is abandoning mature consumers. On the food service front, it is adding venison as an extension to its premium brand 55-day aged beef and handpicked lamb range, which is winning favour among top-end chefs in the United Kingdom.

Alliance uses excellence in product quality and the free-range New Zealand farming story to overcome the inclination of many chefs to buy local beef and lamb. This will also be the case with venison, which many UK chefs associate with wild deer shot in the Scottish Highlands.



DINZ consultant chef Shannon Campbell makes the pitch for NZ farm raised venison.

“Heritage is a big sentiment to overcome. But New Zealand farm-raised venison is a hands-down superior product. It's consistently high quality, tender and able to be used with outstanding results in a much wider range of dishes and cooking styles than venison from an animal of unknown age, shot in the wild,” says Alliance venison marketing manager Terry O'Connell.

“Chefs as much as home cooks need to have confidence that they are going to get a great result every time. It's a very strong selling point.”

White tablecloth restaurants often spring to mind when the marketing of premium venison cuts is talked about. But those cuts make up only a small part of the carcass. Adding value to the lower quality cuts is less glamorous but can do much to boost returns to farmers.

O'Connell says gastropub chains have the potential to take very large volumes of product that is suitable for burgers, pies and casseroles. These outlets are getting back into business now the worst of Covid has passed and are another focus for the Alliance sales team. ■

Weaner sales: two distinct markets

by Phil Stewart, *Deer Industry News* Editor

As hoped, weaner prices lifted at April's sales, in response to a better venison schedule and more favourable market conditions for the restaurant sector. But buyers were thinner on the ground and it was mainly the stag weaners they were after.

High Peak sale

All but two pens of lighter females sold at the High Peak annual sale on 7 April, believed to be one of the world's biggest on-farm deer auctions. About 1,100 weaners were on offer this year, comprising 300 hybrids (attracting more than \$5/kg liveweight), 600 Europeans (about \$4.90/kg) and 200 English/Rakaia reds with velvet genetics (more than \$6.00/kg).

Ron Schroeder, PGG Wrightson's deer specialist for the northern South Island, says the prices realised were well ahead of last year's overall, but it was the male weaners that were responsible. Prices for stag weaners were \$1.00–\$1.50 per kg liveweight ahead of where they were last year, whereas hind weaners were realising about the same as last year. The Rakaia reds weren't going for finishing but retained for velvet, so the market drivers were different.

"Finishing stags were above expectation and hinds below," he says. Schroeder puts the hesitancy to buy females down to uncertainty about venison market conditions later in the season.

While finishers were prepared to take a punt on males that they could supply to the spring chilled market, they were less confident about smaller female weaners that may not be finished until early the following year.

Taihape weaner fair

The annual Taihape fair ran over two days with stag weaners sold on 11 April and hinds on 12 April at the Waiouru sales complex. There was even more daylight between the markets for stag and hind weaners.

The offering was almost exclusively red, with only one line of hybrids offered. Just under 1,000 stags were offered and 580 hinds.

Taihape farmer and DFA Executive Committee member Mark McCoard said the condition of the stag weaners was exceptional, with the top animals nudging 90 kg and the average 65 kg. The top price achieved for stags was \$5.64/kg liveweight, with the cheapest at \$4.82/kg. The average was \$5.28, well up on last year's weaner stag prices that were in the "low-to-mid \$4 range".

"All animals were vaccinated and had been weaned a couple of weeks so were settled and happy," McCoard said.

It was a bleaker picture on day two of the sale when the hind weaners were up. McCoard said about half the hinds – mainly the lighter lines – were passed in at around \$3/kg. Prices realised for the lightest that did sell were around \$3.70/kg, with the heavier

animals in the 60 kg range going for \$4–\$4.70/kg.

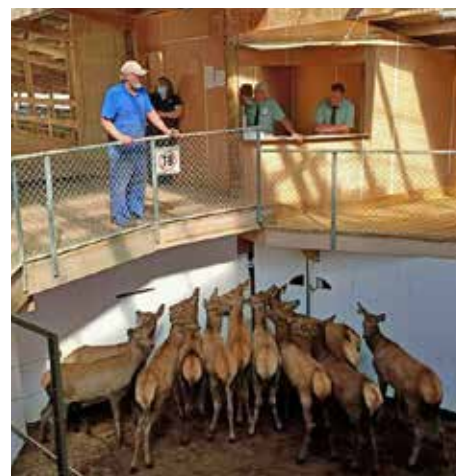
Taihape Ruapehu DFA chair Sean De Lacy added that there was some demand for capital stock hinds for replacements and this accounted for some of the hind sales.

McCoard said venison breeders are now having to compete with lamb. Even with the recent lift in the venison schedule, lamb was making better sense for many, he said.

He said those vendors with passed-in weaners will keep chipping away with private sales and some might keep their hinds as replacements, but they would have to sacrifice adult breeding hinds to eventually make room for them. Otherwise, if they have enough feed, they'll finish the hinds themselves.

"The companies need to provide better market signals to finishers to give them more confidence."

The deer were a picture and a credit to the breeders, De Lacy concluded. "The weaner sales are a great few hours off the farm and a good opportunity to see what can be achieved." ■



Andrew Peters, Taihape Ruapehu DFA committee, looks out over the auction ring.



The weaners on offer were a credit to the breeders, said Sean De Lacy.

He Waka Eke Noa: What's our least bad option?

by Phil Stewart, *Deer Industry News* Editor

The release in February of the IPCC's sixth assessment report has painted a stark picture of the challenges we're facing during this decade to avert climate catastrophe. The report has put He Waka Eke Noa (HWEN) – the primary sector climate action partnership between the primary sector, Māori and the Government – firmly back in the spotlight.

HWEN IS ALREADY two years into its five-year programme. The aim is to agree a framework by 2025 to help farmers and growers measure, manage and reduce agricultural emissions, build resilience and adapt to climate change.

That framework will include a pricing mechanism and it's this aspect that's been focusing primary sector minds as they mull over the two main options for HWEN presented by the Climate Change Commission. The fallback position, if neither of the HWEN options is agreed by 2025, is for agriculture to enter the Emissions Trading Scheme (ETS). That's a long way to fall back and there's wide agreement we need something better than the ETS has to offer New Zealand farmers.

The consultation period on the two HWEN proposals was too short for most, and the primary sector negotiated an extension. But that period is now over (it ended on 1 April).

What happens next

- End of May 2022: Following consultation, HWEN presents pricing system recommendations to Ministers.
- June 2022: Climate Change Commission reports on "readiness".
- End of 2022: 100 percent of farms know their greenhouse gas (GHG) emissions number.
- By 2023 election: Legislation passed.
- 2024: A pilot project, testing a system for farm-level accounting and reporting of emissions, has been completed.
- In 2025: All farms have a written plan in place to measure and manage their greenhouse gas emissions; the on-farm pricing system, including sequestration, is up and running.

What are the Zero Carbon Act targets?

- Methane emissions 10 percent below 2017 levels by 2030, a "frighteningly close" date.
- Nitrous oxide and carbon dioxide emissions reduced to net zero by 2050.

DINZ webinars

Deer farmers were encouraged to have their say on the options presented by He Waka Eke Noa and, to make sure people were well equipped with the facts, DINZ hosted webinars on 28 February and 1 March. They were hosted by Innes Moffat, Sara Elmes and Lindsay Fung (DINZ) and John Somerville (NZDFA). Here's a wrap-up of what was covered.

Compared with the strictures of the ETS, the options created by HWEN had some important features:

- Greater choice over emissions reduction strategies and control over how levies were set.
- Split gas – recognising the different warming impact of biogenic methane in the pricing.
- More flexible allowances for recognising carbon sequestration on farm.
- Recycling revenue generated to invest in emissions reduction.

Lindsay Fung explained that the ETS is designed mainly with fossil fuels in mind, is inflexible and subject to ever-increasing carbon prices. He added that sequestration under the ETS missed or excluded a lot of the real-world sequestration that happens on New Zealand farms. "[The ETS is] a very blunt tool." He added that the ETS doesn't recognise the role of agriculture in food production.

HWEN Option 1: Farm-level levy

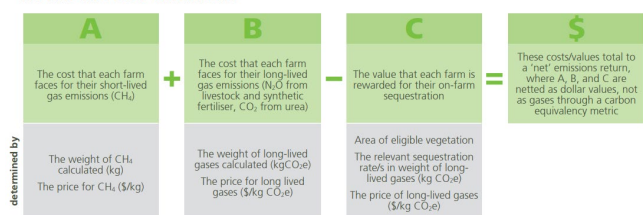
This option lets people calculate emissions at farm level, it recognises on-farm efficiencies and mitigations and applies different levy rates to short-lived (methane) and long-lived (carbon dioxide, nitrous oxide) gases. It also recognises a lot more of the sequestration happening on farms (e.g. riparian plantings or spaced poplars), to offset the cost of an emissions levy.

On top of that, Option 1 recognises previous emissions reduction actions and incentivises uptake of new emissions-reduction technology.

So what's not to like about this option? A fair bit, as it happens.

Calculating the cost at farm level is complex (see diagram below), especially considering the variation between deer farm systems. It would also be an expensive way to collect the levies.

How is the cost calculated?



Formula for calculating farm-level levy costs.

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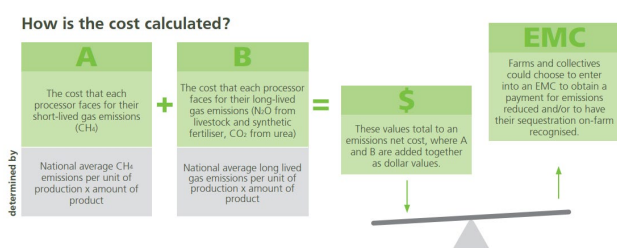
HWEN: continued

HWEN Option 2: Processor-level levy

With this model, processors are charged for the emissions associated with the weight of products they sell. DINZ has reservations about the way these charges are calculated, and with good reason. By 2030, the modelled cost for venison is more than twice that per kg of beef (see below).

As with Option 1, it uses a split-gas approach – nominally a good thing.

The processor would likely pass on these costs to the producer but, as above, farmers would receive credit for emissions reductions and for carbon sequestration (e.g. fencing off native bush). These transactions would be managed through an Emissions Management Contract (EMC, see diagram).



Formula for calculating processor-level levy costs.

The costs have been modelled for Option 2 also, but they lean heavily on assumptions about the costs applied to carbon emissions. Fung said the assumption of \$85/tonne by 2025 and \$138/tonne in 2030 could well be too light.

Based on these, dairy would face costs of \$0.05c/kg milksolids by 2025, rising to \$0.16c/kg in 2030.

For red meats the respective per-kg prices in 2025 and 2030 would be:

Sheepmeat: \$0.10c/kg, \$0.30c/kg

Beef: \$0.07c/kg, \$0.22c/kg

Venison: \$0.15c/kg, \$0.46c/kg

Costs for fertiliser inputs are modelled at \$0.02c/kg N in 2025 and \$0.07c/kg N in 2030.

While the collection of the levy would probably be simpler with this option, the administration via Emissions Management Contracts could be a bureaucratic jungle.

What about deer: four case studies

Four deer farms, with contrasting production systems and environments, were used in a 2019 study of the implications for emissions and sequestration in different settings. The work was updated in 2021. They covered:

- Hawke's Bay velvet
- Hawke's Bay hill country
- South Island high country
- South Island venison.

Four different tools were used to calculate GHG emissions from the farms: OverseerFM, Beef + Lamb NZ's calculator, Farmax Pro and the Ministry for the Environment's emissions calculator. The case studies highlighted the big variability between these tools in the results they produced.

The case studies explored the theoretical impacts of four different mitigation options on each of the four farms.

- changing stock class ratios
- reducing N use
- land use changes, reducing stock numbers
- fewer stock, more trees.

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Celebrating 50 years of science

Fifty years ago the fledgling deer industry was charting unknown territory. Captured deer could thrive in their new environments – or they could drop dead as soon as look at you. There was a lot to learn about keeping these amazing animals healthy and productive.

NEW ZEALAND HAS a proud heritage of agricultural science, and by the early 1970s our strong post-war investment in agricultural extension and research was starting to bear fruit. As part of this effort to expand production and increase overseas earnings, the government of the day bought Invermay as a research and development farm in 1949. It's still going strong more than 70 years later and is now the focus for New Zealand's deer research effort.

Formation of the then Ministry of Agriculture and Fisheries (MAF) in 1972 coincided with the emergence of the deer industry. The ministry straight away applied some of its strong research capability to deer. This was an exciting period for primary industries, with diversification the buzzword across horticulture and livestock.

MAF kept its initial shape well into the 1980s until the first set of structural reforms that culminated in the transfer of the old

Research Division into the new crop of Crown research institutes – AgResearch among them.

Throughout the 50 years, the commitment to deer research has been maintained, with both the government, through AgResearch, and industry investing.

To mark this milestone we'll be carrying profiles and reminiscences from some of the early – and brave! – deer scientists in future issues. (And if you want a taster to keep you going, there is also plenty on the early research days in Lynda Gray's *In Hindsight*, available through inhindsightnz@gmail.com) ■



HWEN: continued

Little impact on emissions

They exposed just how limited these options are, barely denting emissions. The biggest impact – a decrease of about 8.5 percent in emissions – was achieved on one property by changing land use and cutting stock numbers. Tweaking stock policies (e.g. more sheep and fewer deer), barely registered a cut in emissions. On the four case study farms this would reduce GHGs by only 0.07–0.42 percent.

Not surprisingly, but still depressingly, the easiest gains would come from converting land from livestock production to forestry.

DINZ concluded that further mitigations would only come about with as-yet unavailable technologies such as methane inhibitors in feed, or superior deer genetics. The Pastoral Greenhouse Gas Research Consortium, which the deer industry belongs to, hasn't studied methane mitigations in deer although it's assumed they function similarly to cattle. DINZ wants deer-specific research done to clarify the options for cervines.

A financial hit

While the various mitigations wouldn't have much impact on farm emissions in the various scenarios, the financial hit could be severe in some cases under the ETS or the two HWEN options. For example:

- Economic farm surplus (EFS) on a South Island venison farm would fall by 17 percent under the ETS.
- Profitability on South Island high country deer farms falls by up to 14 percent under the HWEN farm-level levy.
- For a South Island high country farm with no opportunities for sequestration (often the case in tree-unfriendly environments), the HWEN processor levy option would reduce profitability by 5 percent.
- By contrast, the Hawke's Bay hill country case study farm, with large areas already under QEII covenant, showed potential EFS impacts of between -3.3 percent (under ETS) and +15 percent

(HWEN processor levy).

- After two years in all systems the HWEN options would be less costly than the ETS, simply because the price of carbon will increase in the ETS, as will farming's percentage liability.

Where DINZ and DFA stand

DINZ, like other sector groups, wants agriculture kept out of the ETS. It favours the HWEN split gas approach and wants prices decoupled from carbon prices.

Farmer engagement is vital, DINZ says. That includes input into design and pricing and being rewarded for reducing emissions at farm level. Fairness is also necessary, with pricing reflecting the availability of mitigation options.

The HWEN partnership should also be integrated with other government environmental policies and have minimal admin costs. Finally – and this view is strongly endorsed by NZDFA – the impacts should be equitably shared by all agriculture sectors, DINZ says.

DINZ is already working and advocating to fix some of the anomalies in the HWEN proposal, especially the unfair burden on high country properties, which is related to the relative efficiency of smaller, intensive operations. (HWEN is resisting pressure to put costs on a per-hectare, grass curve basis, but the issue will continue to be pushed.) The split between venison (all of the cost burden) and velvet (no burden) is also a focus.

While supporting the DINZ position, NZDFA is also advocating for a pricing mechanism that lowers the risk of productive farmland being swallowed up by forestry, that takes farmer wellbeing into account and that allows individual farmers to take responsibility for managing emissions. The NZDFA is also keen to see the partnership stay independent of pricing of long-lived gases linked to the ETS.

To these ends, NZDFA is working with farmers from the sheep and beef sector on changes to HWEN Option 1 (farm-level

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Recycling magazine wrap

Deer Industry News has been looking into options for recycling and reducing our environmental footprint.

THE MAGAZINE ITSELF can eventually be recycled through council paper recycling schemes and we encourage readers to do this – only after you've thoroughly read it of course!

The packaging is a different kettle of fish however. Compostable and degradable packaging options offer logistical problems and higher costs for little environmental benefit. For example the degradable option still goes to landfill and breaks down into smaller and smaller pieces of plastic over time. Compostable options are very expensive.

There is a silver lining however. The standard film wrap currently used for your mailed copy of *Deer Industry News* qualifies for soft plastic recycling. These plastics are used to make plastic fence posts and ducting. (You might have spotted the recycling website and logo on your address label.)

The Love NZ Soft Plastic Recycling Scheme is so far offered

mainly in the North Island, with South Island options currently limited to Christchurch, Dunedin, Mosgiel, Oamaru, and Rangiora. However the scheme is expected to spread to other locations.

For the latest information on soft plastic recycling store dropoff locations:

<https://www.recycling.kiwi.nz/store-locator> ■



As these become more widely available throughout the country they'll become a good place to drop your *Deer Industry News* packaging, plus other soft plastics.

Immune function: promising first steps

by Phil Stewart, *Deer Industry News* Editor

In traditional medicine, velvet antler has long been valued for helping boost immunity. But making human health claims for the immunity-boosting effects of deer velvet when selling products is a different story and must be backed by robust science. The first steps on that journey have been successfully made, with some promising results.

PRELIMINARY RESEARCH LED

by Dr Axel Heiser at AgResearch Palmerston North, co-funded by DINZ and AgResearch, focused on the effects of deer velvet extracts on both innate and adaptive immunity.

Some background first: **Innate immunity** is the body's next line of defence against foreign organisms that have made it past physical barriers like the skin and mucosal linings. Innate immunity works fast and aggressively but isn't very targeted. White blood cells are part of this immune system rapid response team.

Adaptive immunity is slower to work but is more targeted. It learns to recognise particular invaders so they can be quickly picked out and attacked if they appear again. Vaccination harnesses this power by teaching the immune system to look out for specific microbial troublemakers.

Could deer velvet give the immune system a helping hand? The immune function research built on earlier 2021 work investigating the composition of two significant velvet grades: SA Traditional (SAT) and SA Non Traditional (SANT). This work showed that the amino acid profiles of the two grades were essentially identical, although it's possible there are differences in the way these



Axel Heiser with AgResearch's Nanostring nCounter, which was used to measure gene expression in the immune function research.

building blocks are assembled if you drill down to analyse the various bioactive products for each grade. More work is needed on this.

The same extracts used in the composition research, five each from SAT and SANT velvet, were used in the immune function work.



Spot the difference: SAT antler (left) and SANT (right). Extracts from these sticks of antler were used in the immune function research. (Photos courtesy CK Import Export)

Suppressing friendly fire?

When a white blood cell (part of the innate immune system) consumes a foreign bug there's a "respiratory burst" process that produces byproducts called reactive oxygen species (ROS). If ROS levels are too high, this can damage immune cells as well as wiping out the invader. It's a bit like lobbing a hand grenade to take out your enemy and getting caught in the blast.

In the samples treated with SAT velvet extracts, significantly less ROS was produced. This means immune cells could be better protected as they do their job fighting infections.

Gene expression changed

Looking at the way key genes were expressed in the adaptive immune system, the researchers investigated 19 genes and found two in particular that stood out.

IL-2 helps white blood cells do their job more accurately by killing the invaders that need to be killed while avoiding damage to the host. Using samples provided by human donors, in those treated with velvet extracts (both grades) there were significantly more RNA copies available to produce IL-2.

ITGAM helps regulate the way white blood cells move around and interact with other cells. The gene that produces ITGAM can be downregulated by a disease organism. (This is a bit like a burglar disabling an alarm system before they start thieving.) When the velvet extracts were introduced to the samples (both grades), this downregulation didn't happen. The white blood cells could get on and do their work without interference.

What it means; where to now?

This work is an encouraging first step. It showed clearly that these velvet extracts had an impact on aspects of the human immune system.

But there's a long way to go on the journey to verifiable human health claims for immune function. We know there are effects but we still need to understand what bioactive components within velvet are responsible.

We also need to understand why there might be differences between effects of extracts from the different grades. And beyond that, the significance of differences in year of harvest, farm/herd of origin also need to be explored. ■



Livestock Intelligence™

MSD Animal Health Intelligence

Time's Nearly Up!



Get your entries in quick! Photo competition closes 5pm, Wednesday 4 May 2022.

While Covid-19 has put the brakes on many activities, the 2022 MSD Animal Health/Allflex Deer Industry Photo Competition can still go ahead. That's because the event is entirely electronic – you can enter and submit your pictures online.

So gather up those great shots you have on file, or head out on the farm with your camera and enter the **2022 MSD Animal Health/Allflex Deer Industry Photo Competition.**

There are some great prizes on offer, including;

- **\$500 cash prize for the first place winner**
- Category winner cash prizes
- Premium gift pack for People's choice award
- Framed photos of winning photographs

For entry form and rules:

<https://deernz.org/assets/Events/2022-Photo-Award-Entry-Form-Editable.pdf>

To see 2021 entrants: <https://deerindustryofnz.pixieset.com/2021deerindustryphotocomp/>

Winners will be announced via deer industry's social media and website.

- This competition is for amateur photographers only.
- Please ensure that any photos taken on your phone are high quality/high resolution.
- Organisers reserve the right to postpone or cancel the competition if there are insufficient entries.

2021 winner: "Who's the boss" by Ian Buunk

Looking for lungworm: pen-side tests explored

by Jamie Ward, AgResearch and Emil Murphy, Deer Industry New Zealand

That tell-tale soft cough, plus a failure to keep up with target weight gains, are pretty good indicators that your young stock have lungworm on board. But detecting infection through those signs alone can be a bit hit and miss.

AND WHILE LUNGWORM, *Dictyocaulis eckerti*, can still be well controlled with anthelmintics, it's not always that clear which animals need treatment, especially in the late summer/autumn danger period. More judicious use of drenches not only saves money, but it also helps delay the onset of parasite resistance – a win-win.

What if there was a more certain and reliable method to target infection better? A kind of RAT or breathalyser test for young deer?

It might sound fanciful but there is indeed very accurate technology available that can detect the faint chemical whiff from lungworm.

One of the more exciting research projects underway under the co-innovation framework between the deer industry and AgResearch is developing just such a rapid diagnostic tool to identify deer infected with lungworm.

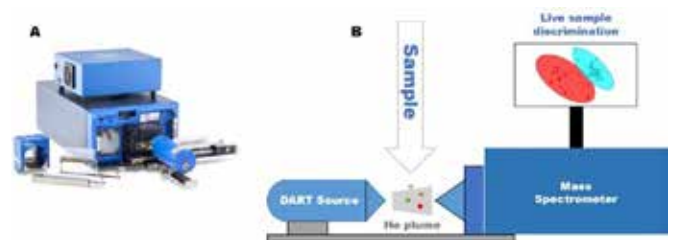
This research started out with a Learning Phase: a short project to see if a research idea has merit before committing to it. This allows DINZ to evaluate whether an idea has merit without risking significant funds.



Arvind Subbaraj with the DART-MS setup used for the Learning Phase project.

Lead researcher, Arvind Subbaraj, says the purpose of the research is to use saliva of farmed deer and investigate the possibility of detecting unique metabolic signatures that would indicate an active lungworm infection.

“Such signatures would provide an opportunity for further developing a pen-side, real-time diagnostic tool to identify infected and infectious animals and allow for targeted anthelmintic treatment.”



The “pony-sized” DART-MS device (A), and its ionisation technique (B) showing samples exposed to a plume of heated helium, and direct sample discrimination in real-time.

The Learning Phase investigated three techniques. The most promising one, DART-MS, identified a shortlist of five potential signatures from saliva.

The Learning Phase led to a setup capable of distinguishing between samples from uninfected and infected deer in about 5–10 seconds per sample. This is hugely encouraging progress. That said, it's still not known what chemicals those signatures represent. The machinery needed to analyse the samples is “the size of a fat pony”, and it's significantly more expensive than equipment you would find in most vet clinics. So while it's encouraging, so far this is a research solution – not a practical application.

In the current phase, the aim is to repeat the trials to validate the method and results, and then identify the chemicals, or biomarkers, that the signal represents. By identifying these biomarkers Subbaraj and the team hope they will be able to incorporate them in hand-held biosensors that could be used in the field, or establish a pen-side mobile lab using DART-MS.

The team has recently completed the necessary analytical chemistry work to start the arduous process of identifying the biomarkers. That involves trawling hundreds of thousands of potential chemicals to see which might be sensible metabolites indicating lungworm infection.

If specific metabolites can be identified, that will help determine how a pen-side test might be developed and how effective it might be.

What's DART-MS?

The DART-MS uses mass spectrometry technology on unprocessed samples in real time. Drug detection on swabs at airport security uses this technology. For a short video on using the technology – to discriminate between beers in this case – see: <https://www.youtube.com/watch?v=JjLPzTWstLU> ■

Constitutional matters

1. New Zealand Deer Farmers' Association (NZDFA), Annual General Meeting: Notice of meeting

Notice is hereby given that the 47th Annual General Meeting of the New Zealand Deer Farmers' Association (Inc) will be held on 25 May 2022, commencing at 8.30 am.

The Chair and Executive Committee of the NZDFA invite all members of the NZDFA, industry levy payers and interested parties to attend via internet video link (details to be notified by 18 May 2022).

2. NZDFA Executive Committee Appointments

Members of the NZDFA Executive Committee are elected for a two-year term. Members retire by rotation and are eligible for re-election. According to the NZDFA constitution rules, the Executive Committee elects a Chair from among the four members, for a term that is also decided annually. This has been traditionally a 12-month term.

Nominations have been called for the two (2) Executive Committee Member vacancies created due to retirement by rotation.

- 1) For the vacancy created due to retirement by rotation of Karen Middelberg (Hawke's Bay): A single nomination, **Karen Middelberg** (Hawke's Bay) – nominated **Evan Potter**, seconded **Grant Charteris** was received, and she is declared appointed for the 2022–2024 term.
- 2) For the vacancy created due to retirement by rotation of John Somerville: There were no nominations. As per Rule 12.1 of the NZDFA Constitution, the Executive Committee will seek to fill this vacancy by appointment and the appointee shall hold office until the end of the next Annual General Meeting.

The successful candidate(s) will join sitting members **Justin Stevens** (Marlborough) and **Mark McCoard** (Taihape Ruapehu) as the 2022/2023 Executive Committee of the NZDFA following the conclusion of the 47th NZDFA AGM on 25 May 2022.

3. NZDFA Selection and Appointments Panel (SAP)

The SAP consists of four Executive Committee members and four non-Executive Committee elected members. Two of the non-Executive Committee elected members of the Panel retire annually by rotation.

Nominations have been called for the two (2) non-Executive Committee elected member vacancies created due to retirement by rotation of **Patrick Boyd** (South Canterbury North Otago) and **Leith Chick** (Waipa), and one (1) non-Executive Committee elected member 'extraordinary' vacancy created by the mid-rotation resignation of **Stephen Borland** (Waikato).

There are four nominations:

- 1) **Leith Chick** (Waipa) – nominated **Helen Clarke**, seconded **Murray Templeton**.
- 2) **Andrew Peters** (Taihape Ruapehu) – nominated **Alex McIntyre**, seconded **Chris Satherley**.
- 3) **William Oliver** (Waipa) – nominated **Jacqueline Wellington**, seconded **Grant Dixon**.
- 4) **Graham Peck** (South Canterbury North Otago) – nominated **Lyal Cullen**, seconded **Chris Petersen**.

The two candidates receiving the greatest number of votes will each be appointed for a two-year term to fill the vacancies created by retirement by rotation. The candidate receiving the third-highest number of votes will be appointed for the one-year term created by the extraordinary vacancy.

4. NZDFA appointments to the Board of Deer Industry New Zealand (Two vacancies)

Producer-appointed Board members are appointed directly to the DINZ Board for a three-year term and that appointment is advised to the Minister for Primary Industries as a formality.

There are two vacancies for the 2022–2025, three-year term, created by the retirement by rotation of sitting members, **Ian Walker** (Hawke's Bay) and **Mark Harris** (Waikato) who are not seeking a further term.

Three nominations have been received:

- 1) **Dr Jacqueline Rowarth** (Waikato) – nominated **David Stevens**, seconded **Peter Allan**.
- 2) **Hamish Fraser** (South Canterbury North Otago) – nominated **Thomas Macfarlane**, seconded **Mark Tapley**.
- 3) **David Morgan** (South Canterbury North Otago) – nominated **Kelly Bennett**, seconded **Mark Tapley**.

The nominees are invited under the NZDFA constitution to present a short overview of their candidatures at the 47th AGM in Wellington or by internet link on 25 May 2025 before the meeting's General Business session. The Selection and Appointments Panel will carry out its processes and make the appointments before 1 July 2022, as required. ■

– LE Fung, Returning Officer for the NZDFA, 8 April 2022

HWEN: continued

levy). This focuses on a progressive per-hectare emissions levy, a reporting and collection system via IRD that avoids a new bureaucracy, and ensuring all verifiable sequestration is captured – not just post-2008 plantings. (See editorial on page 3 for more on NZDFA's position.)

When it comes down to it, both organisations want deer farming to stay profitable and competitive. They want on-farm actions to be recognised, and they want a clear, simple system

with low administration costs.

DINZ CEO Innes Moffat concluded that going straight to a simple farm-level levy is the preferred, or "least bad" HWEN option. A second choice by some margin would be to start with a processor levy for administrative convenience, but then transition to a farm-level levy.

And the ETS for agriculture? "Let's not go there." ■

Regenerative agriculture: What about deer?

by Phil Stewart, *Deer Industry News* Editor

In the second of our three-article series we saw some of those getting on board the regenerative agriculture (RA) train – and what the venison marketing companies are making of the trends. In this, our third and final instalment, we look at RA from a deer farming perspective and conclude with a comment from DINZ.

THERE ARE NO signs of regenerative agriculture practices taking off on New Zealand deer farms so far, although a Silver Fern Farms survey of its suppliers revealed a number of deer farmers were using at least some RA (see previous article).

One who is strongly committed to RA is **Duncan Humm**, who runs Carluke Deer with wife Lorna at Mt Somers in Canterbury.

The couple run 150 English red hinds with a venison focus, plus 60 velvetting stags on 45 hectares of dryland. About 40 hectares of the original family farm was sold to a dairy farmer and the balance – about 95 hectares – is currently leased out.

When Humm came back to the family farm in the early 2000s he was struck by the “pretty average” stock performance, with footrot problems in sheep getting gradually worse and people on ostensibly similar farms getting much better weight gains in finishing stock. Deer were being treated as a “safety valve” for other stock classes when things got tight.

The term regenerative agriculture wasn’t circulating at the time – “this was before Google” – but he started talking to people to see what they could do differently. Humm recalls he started picking up on a few “biological” farming techniques that started to yield results.

It wasn’t anything radical and it’s been a gradual process trying new practices over the past decade or so. Some of this was around management, moving away from set stocking to more rotational grazing. That alone started making a difference with the Friesian bulls they were finishing in terms of weight gain and behaviour. “They were more settled.”

He’s also switched from the very conventional super and lime regime recommended by his fertiliser company to more of a focus on minerals and active monitoring of what was going on using both soil and herbage testing. Humm’s day job is as a store manager for Top Soils, where he’s learnt a lot from CEO Don Hart. “He’s done some good trials using alternative products based on the Kinsey Albrecht [soil audit] system.”

Humm has looked harder at the trace element status of their farm and using sources such as dolomite (magnesium and calcium) and guano (phosphate). Zinc and copper were also an issue on the farm and Humm has been careful to avoid product interactions that suppress uptake of trace elements. He’s come to realise that soil health depends on much more than chemistry alone – soil biology is equally important.

He’s also moved away from the farm’s all-grass heritage to a pasture renewal programme that allows him to follow crops

with broad mixes of species. One success story has been Shogun ryegrass, which has been way more persistent than it says on the label when planted as part of a diverse mix including herbs and clovers.

They are working on multi-species mixes for silage and also trying new inoculants to get a better result.



A mixed species RA sward at Carluke. Photo: Duncan Humm

While there aren’t a lot of deer farmers on the RA train just yet, Humm is a social animal and has taken full advantage of wider social media networks to exchange ideas with other farmers on RA and other topics. In fact he’s now a moderator for the wildly successful (over 200,000 followers) NZ Farming Facebook group. He’s also become involved with Quorum Sense, a farmer-led place for “farmers and the wider community to share knowledge and ideas about regenerative farming systems/practices, as well as successes, failures and learnings”.

Humm, who’s a board member for the organisation, says it’s evolved from a limited Whats App group to something much wider – an “open source network” using Instagram and Facebook to connect thousands of farmers, scientists and consumers keen to share ideas about RA. He’s delighted that the Ministry for Primary Industries has seen the value of what they are doing and invested in Quorum Sense’s peer-to-peer learning.

So has the transition to RA techniques made a difference to the deer operation? Humm is adamant that it has, adding that it must always be treated as part of a wider system.

He says they have traditionally post-rut weaned and struggled to get weights over 65 kg in weaners by early winter. Now they're hitting over 70 kg, with the best mixed-sex average achieved to date of 73 kg.

Humm said he was wary of talking about RA practices with their Advance Party, but he's grown in confidence as much of what they do is accepted as more mainstream than before.

He acknowledges the concern that soils could be depleted over time with RA practices, but says constant monitoring should allay fears. "I know of a [RA] farm at Leeston where a paddock has had no phosphate applied for 15–20 years. It's still being intensively cropped and its Olsen P level is double what it was when they started."

Scientists who dismiss the farm-level experience with RA techniques are "arrogant", Humm says. And is he confident to stay on board with RA? "Absolutely."

On-farm RA product trial

Henry Gaddum, who runs sheep, beef and deer inland from Gisborne, is dipping his toes into the RA waters with an on-farm trial of "Respond", a locally produced soil rehabilitation product.

The mix of fungi, bacteria and other additives is claimed to naturally replace nitrogen and unlock other nutrients into plant-available form when applied to the root zone. It's being used in viticulture, horticulture and forestry as well as in pastures.

Gaddum has been working with Toha¹, an agency that is creating investment channels for "impact ventures" focused on climate and the environment. Toha connects investors who want to make a positive difference to environmental outcomes and groups who are able to implement projects to support these aims. The projects are designed to have measurable outcomes, and create data to track the impact of an action (e.g. a riparian project). This data is a tangible asset with tradeable value – an "impact pledge", that will eventually create additional value for investment in further projects. Regenerative agriculture is the basis for Toha's first impact venture.

Pāmu farm trial

Pāmu is also interested in seeing what RA might have to offer and in November last year set up a trial on 42 hectares of its Dawson Downs property in South Otago. (Unfortunately there are no deer involved, as the farm's role as a Pāmu deer finishing property is coming to an end.)

The RA block is being run next to a block of conventional Italian ryegrass on similar country and using the same fertiliser regime – a bit of DAP down the spout at drilling. Grazing started in February.

Manager Lochie Elliot told *Deer Industry News* the "hot" 14-species mix chosen for the trial was selected with local conditions in mind. Once the taller species such as rape are grazed down, the idea is to open it up for others such as plantain, chicory, lucerne, clovers and grasses.

He said the RA paddocks took longer to establish than the ryegrass, which could be grazed sooner and more often. They were also a lot more expensive to establish. Angus steers were followed by lambs and their performance in each system has been comparable so far. The only difference Elliot has noticed is the

transition to the RA paddocks for stock took longer. "It's about the same as when you put them onto something like fodder beet. They had a bit of a weight check at first."

It's still early days, and the first few months of grazing on the two systems have been significantly affected by the drought that's hit the southern South Island. Elliot says the intention is to continue the trial for three years, "but if the species are holding on okay we might keep it going longer".

He said they are not especially invested in RA but want to see how it performs on one of Pāmu's properties in a commercial environment since there is so much interest in the system now. "We want to get some hard information of our own and see what works and what doesn't. It's early days yet and we'll know a lot more in a year's time."



The Southland P2P Environmental Advance Party, which visited Dawson Downs in early February, looking at the RA mix. Lochie Elliot is second from right. Photo: Nicola McGrouther

What does DINZ think?

DINZ CEO **Innes Moffat** says the organisation isn't actively promoting RA practices yet. However, he added, "if companies selling deer products determine there is demand for items carrying a regenerative label, they should be communicating this to their suppliers and rewarding them for adopting those practices".

Moffat said DINZ encourages farming practices that protect and enhance soil health and minimise sediment loss. "We are also in favour of practices that enhance animal welfare and biodiversity."

He said it may prove difficult to arrive at a definition of New Zealand regenerative agriculture. "We are aware that some companies think standard New Zealand pastoral farming should qualify [as supplying RA products]. We are sceptical that 'we have grass and we have mountains' would actually meet any of the various definitions of what regenerative actually is."

What do you think?

So is the New Zealand deer industry ready to hop aboard the RA express? Or will we let it pass and await the next train? What do you think? Are you trying it on your place? *Deer Industry News* would love to hear your thoughts on the practice or any experiences with RA. ■

¹ <https://www.toha.nz/about>

Venison nachos

Nachos are an easy meal that the whole family will love. Venison mince is high in iron and low in fat, so it's a healthy and delicious protein choice. The NZ Venison facebook page has a handy wee video showing you how to prepare this fresh.co.nz recipe.

Serves: 4 • Prep: 5 min • Cook time: 15–20 min

Ingredients

- 500g New Zealand farm-raised venison mince
- 2 tbsp oil
- 1 red onion, diced
- 2 cloves garlic, roughly chopped
- 1 tsp ground cumin
- 1 tsp ground coriander
- 1 tsp ground chilli
- 2 tbsp Chantal Organics tomato paste
- 1 can (400g) Chantal Organics chopped tomatoes
- 1 can (400g) Chantal Organics Mexican style beans
- Salt and pepper, to taste
- 1 bag tortilla chips
- 1 cup grated cheddar cheese

Toppings


- 1 avocado, sliced
- ½ cup Superb Herb coriander, roughly chopped
- ½ cup sour cream (optional)

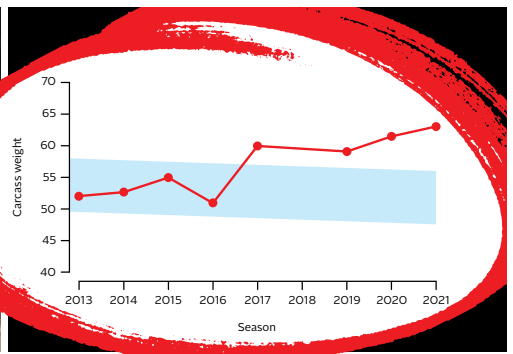
Method

1. Add 1 tbsp oil to a large frying pan over medium heat. Add diced onion and venison mince and fry for 5 minutes, using a spatula to break up the mince. Add remaining oil, garlic, spices and tomato paste and fry for 3 more minutes. Add chopped tomatoes and beans and simmer for 5–10 minutes, until the mince is cooked and fragrant. Season to taste with salt and pepper.
2. Meanwhile, preheat oven to 180°C. Spread a bag of tortilla chips on a lined baking tray. Sprinkle grated cheese all over. Bake for 8–10 minutes or until the cheese is melted.
3. Divide corn chips into serving bowls. Spoon on venison mince then load with avocado, coriander and sour cream. ■




Benchmarked production and Johne's disease info on your deer





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



To help make and assess your deer management decisions contact **DeerPRO** for your report – **0800 456 453** or **info@deerpro.org.nz**