Deer Industry News

Southern Safari for Hawke's Bay AP

Genetics Workshop SETTING BREEDING OBJECTIVES AND A DIRECTION FOR YOUR DEER BUSINESS China a Hot Topic TALK AT ANUGA TRADE FAIR FOCUSES ON CHINA IMPACT ON GLOBAL MEAT TRADE NZDFA Branch Chairs COMPREHENSIVE REPORT ON ANNUAL MEETING WHERE ENVIRONMENT TOOK CENTRE STAGE





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Deer Industry News

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Cover: Hinds at Braemar Station in the spectacular Mackenzie Country. A group of Hawke's Bay Advance Party members were hosted on a tour of AP farms in the region last month and learned plenty during the three days. Photo: Phil Stewart.

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EDITOR Phil Stewart, Words & Pictures

Shaping a sustainable farming future

MARKET CIRCUMSTANCES ARE supporting fair prices, but we also face challenges that create significant pressures on our businesses and lives – it is easy to feel overwhelmed.

The mix of challenges varies considerably. In my part of New Zealand (Otago), this has recently included deemed permits application for water resource consents, water and carbon neutral policy consultation, public comment on farming practices and banking policy changes. We are in this together and should be looking to not just survive but to thrive.



Mandy Bell.

These challenges and opportunities require a change in our thinking about how we farm. We can manage the changes by working collaboratively and by utilising regenerative farming and One Health principles and the United Nations Sustainable Development Goals (SDGs) as a framework.

The SDGs have been adopted by many countries and businesses as a whole approach to the future and I look at these 17 goals with some relief (un.org/sustainabledevelopment/ sustainable-development-goals). Many of them include land and farming as a part of solutions – carbon sequestration for example.

We are now entering a fourth industrial revolution – faced with the need to regenerate and accept that this is the era we live in. We can't leave environmental problems to the next generation; it is up to us to effect change.

Whole-of-business planning can aid this transition. This could be done in an Advance Party environment, an industry environment, or through a business advisory board. I strongly urge you to see what support there is, with a view to writing a robust plan.

The plan then requires action. To do this, we need open and growth mindsets and tools and support to help perform under pressure. In New Zealand, we need to place more value on collaboration and less on regulation. A prime role of leadership is creating and upholding the conditions to support people taking actions for change – providing the resources (technical, financial, knowledge, skills, mentoring, connecting) for those who are already innovating, experimenting and persisting. Our industry is doing this through the Passion2Profit (P2P) programme, a dynamic, where "bottom up and top down" meet to enable meaningful change at a faster pace than policy can enable. Practical change occurring at pace is led by those with skin in the game and supported by an agile, responsive industry.

To help achieve this, DINZ and P2P have initiated a farming innovation group and hosted two Deer Industry Innovation Workshops with up to 50 younger (than me) deer farmers and associated industry people attending.

At the most recent workshop in Christchurch, Dr Ceri Evans, best known for his mental skills preparation work with the All Blacks, led a session about performance under pressure. He taught us how we can use our mindsets to cope with the changes we are facing. (See bit.ly/2M8647I for his book, "Perform Under Pressure".)

We can make it our mission not just to survive but to perform! We have the technical knowledge and ability to excel and we can develop the mentality to be in control of these challenges and to maximise emerging opportunities. Our farming businesses and land are a key solution for the systemic change required for the health of our land, animals and ourselves.

Mandy Bell, Criffel Station, Chair Passion2Profit Advisory Group

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Mackenzie AP returns hospitality in spades

by Phil Stewart, Deer Industry News Editor

Exactly one year after enjoying a tour of the Hawke's Bay Originals Advance Party's farms (see *Deer Industry News* December 2018), the Mackenzie Advance Party (AP) hosted a successful return visit from 12 HB deer farmers, plus an AP group from Otago.

THE TOUR, HELD last month, covered a lot of big country and some of New Zealand's best-known deer farms. It was a real eye-opener for the North Islanders - and it wasn't just the steam punkers sauntering into the pub in North Otago, the big trophy sires or a whole container-load of velvet that impressed them. It was also the chance to see how deer farming works in a totally different environment, pick up some good ideas and appreciate just how diverse and adaptable the deer industry can be. The threat of further environmental restrictions was a common



Pania Flint provided a comprehensive tour booklet with information on the Mackenzie AP farms.

concern shared by both hosts and visitors.

A special thanks also must go to **Hamish and Julia Mackenzie** for hosting visitors for dinner at their Braemar Station homestead, and also to **Mark Tapley and wife Anna** who hosted all to a barbecue at their Peel Forest home. On both nights the conviviality and discussion went well into the small hours – a good sign of networking and growing friendships.

The detailed and tight tour organisation by the Mackenzie AP was led by Hamish and Julia in partnership with **Richard Hilson**, who shepherded his Hawke's Bay team and made sure they got the best out of what was on offer.

Advance Party coordinator **Pania Flint** provided a comprehensive tour guide with extensive detail on the entire Mackenzie AP group's farms, while Hawke's Bay AP facilitator Richard Hilson provided an updated information booklet on the Hawke's Bay farms visited last year with the addition of a couple of industry newcomers.

Foveran Deer Park: Growing good feed in tough environment

The Hakataramea Valley property has been in the Robertson family for nearly a century. With just 450mm of annual rainfall, supplemented by irrigation on about 300 of the station's 2,646 hectares, long-serving manager **Barry Gard** knows all too well about making the best of the moisture available.



Barry Gard (right) explaining the finer points of trophy antler at Foveran Deer Park.

Gard said the annual rainfall hadn't changed much during his 30 years on the property, but the climate was warming. Days of 30°C+ are getting more common and plenty of shelter is grown to provide shade in the hot summers. Eucalypts have been used a lot for this and grow well once the roots get through a hard pan, but Gard said they would use more natives if planting the shelter today.



Stags in velvet at Foveran Deer park.

Irrigation water from their shallow bore is classified as river water and the intake is restricted to 50 percent when river flows get below 1500 litres/second. This happens most years, usually at the height of summer. If it drops below 500l/sec the intake has to stop altogether, although this has only happened once during Gard's time on the property. The station also has a consent to take up to 2000 litres/second from a "mostly dry" creek during high water, but has endured a long process of negotiation with ECan centred on a weir and fish screen to prevent native species from being stranded. The final outcome which involves a graded rock and water pathway, has been positive, but cost hundreds of thousands of dollars.

The Hawke's Bay visitors were impressed by the amount of grass and winter feed being grown and the five-year pasture renewal programme (about 30 percent of the farm is cultivable).

They grow a lot of Brigadier fodder beet, which suits the environment. Gard said the bulbs sit high so utilisation is good. "The stags love it so much they'll jump the break to get into the next lot." (In more frosty areas of central Otago the bulbs can go mushy and black in winter, one visitor noted.)

A lot of kale is grown at Foveran and they are about to try the kale/radish hybrid Raphno, which can provide multiple grazings

over a season. No palm kernel is used, but as with many deer operations, barley plays a role in January. Gard said the hill country doesn't provide all the lactating hinds and fawns need, and baleage helps



Sprung centre pivot gates at Foveran. Barry Gard said smart deer can sometimes sneak through before the gate shuts.

make up the shortfall. He would like to reduce fawn losses and said getting hinds back up to condition for mating can be a challenge.

The extreme temperatures are tough on ryegrasses and they are moving to other species. Ryecorn withstands the heat well and is very productive in this environment, providing two cuts a year for silage or baleage. They are also trying Safin and Greenly cocksfoot and are planning to plant tall fescue. Lucerne is grown on the dryland for baleage, and chicory and plantain are also used successfully. Lucerne is included in some pasture mixes and some stands are grazed in situ. "We can get three or four cuts in a good year and we let it flower once a year," Gard explained.

Deer account for about one-third of the 9,553 stock units at Foveran and the emphasis is entirely on trophy. The herd was based on German genetics, with other European lines introduced over the years. Gard said the stud animals grow in a very realistic commercial environment and he's pleased to see trophy animals growing even better heads when they are sold to other properties in more benign environments. Stags are sold as 2, 3 and 4-yearolds with some grown out for trophy as 5-year-olds, either for Foveran's own trophy hunting block or for other outfitters. Gard said inches of antler are measured to supply stags known to be in the gold or silver category, although he noted the boundary between the two categories keeps shifting upwards.

Livestock have to compete with rabbits and wallabies at Foveran, with the latter "souring" the ground with their urine. A recent programme took out more than a thousand wallabies, which are equivalent to about one-third of a stock unit each.

Feedback

The visitors were impressed by the use of shelter trees and the productivity of the ryecorn and also the diversification of the business (lamb, wool, cattle, trophy deer). They suggested:

- providing more cover for fawns
- further development of high country pastures, e.g. with clovers, to provide better nutrition for hinds and fawns
- bringing hinds and fawns down for more high-quality grazing in January
- providing a summer crop adjacent to the hill blocks that hinds could come down and graze ad lib.

Awakino Station: Productive flats help with finishing

Not far from Foveran Station, on the south side of the Waitaki River, is the 7,500-hectare Awakino Station (785 hectares deer fenced). It's mostly quite steep hill country ranging up to



Awakino Station manager, Danny Devine (right).

1,200m. The small area of flats is well used.

Rainfall is a comparatively abundant 600mm and there is 228 hectares irrigated with k-lines plus 35 hectares sprinkler irrigated. This, along with improved pastures and more deer fencing, has meant they can finish their own weaners rather than selling stores as had been done earlier.

Manager is retired rodeo rider and rescuer of Shrek the sheep, **Danny Devine**, who has been in the job four years. Devine's grandfather bought the property in 1988 and, like Foveran, it's a diverse operation. Nearly half the stock units are sheep – Romneys, Halfbreds and Merinos – including ultrafine (15–17 micron) production. Cattle make up one-third of the stock units and deer about 20 percent.



Purchased in-fawn hinds at Awakino Station.

continued on page 6

Southern safari: continued

Devine has been building up the deer operation, which started in the late 1990s when deer and deer fencing were cheap. There are currently 940 mixed age and 338 R2 hinds, all mated to hybrid, wapiti or B11 sires for venison production. All replacement hinds are purchased in fawn and sires are purchased for high-growth breeding values.

Devine said building up hind numbers has meant keeping some longer than ideal, but they are now in a position to start culling the less-productive older animals. The old hinds were prone to escape, hard to muster and "cunning as shithouse rats", he said.



Fescue, plantain and subterranean, red and white clover on the flats at Awakino Station.

Summers are very dry and regrassing where possible with good drought-resistant species such as fescue and lucerne has helped. Fescue, plantain, red, white and subterranean clovers on the flats are boosting productivity during dry spells. Deer do well on the mix, although Devine said they could reject plantain and clover at certain times. Grain is fed out with a wagon rather than Advantage Feeders, which needed topping up too often.

Fodder beet (40 hectares) supplemented with silage is a winter mainstay on Awakino Station for all youngstock. Kale doesn't do well in this environment after snow.

Devine said they are trying to integrate the sheep, beef and deer systems more and they are still trying to work out where is best for the hinds in spring. One option would be to give sheep the sweeter country first, followed by the hinds.

The k-lines are not the most efficient (annual per-hectare cost including consents is \$350) and they need to watch out for water ponding and encouraging wallowing, Devine said. "ECan may well push us to use a more efficient irrigation system." He said the property has tremendous potential for harvesting and storing

surplus winter water in dams for use during dry spells.

Ben Dhu Station: Working within tight constraints

Hamish and Pip Smith have shown what's possible when you're faced with serious constraints – both natural and man-made. When the Smiths bought the 3,525-hectare property in 2006 for about \$600/stock unit, it had just been through tenure review.



Hamish and Pip Smith, Ben Dhu Station, have faced down a few challenges since buying the property in 2006.

As a legacy of that process, part of the property is now a scientific reserve protecting the large stand of bog pine.

It's challenging country. Located in the eastern foothills of the Diadem range in the southern Mackenzie country it goes from 550 up to 1,280 metres and has 650mm of rainfall. Much of it is tussock and matagouri, and the biodiversity of this type of landscape has put the brakes on some of the development they would like to do. Total stock units for the station are capped at 8,000–9,000 by ECan.

Hamish Smith said "we thought we could just fence and farm

it when we arrived", but it turned out to be more complicated than that. They have been prepared to make big calls when a strategy hasn't worked out, and having the courage to do that has started to pay off.

When they bought the farm the hybrid hind herd they inherited was neither fish nor fowl – velvet genetics weren't great and they were too big to be efficient venison producers.

Hamish said they have since bought good velvet hinds and sires from Forest



There are constraints on developing land with high biodiversity values at Ben Dhu Station.



The Smiths are improving the velvet genetics of their hind herd.

Road Farm and Peel Forest Estate and they are already seeing the benefits. Their two-year-old velvet weights with the new genetics lifted by 1kg over the previous year and they were looking forward to seeing how they would deliver as 3-year-olds. To ensure they get the best out of their new genetics they have also invested in DNA testing and a Gallagher TSi recording setup so they can identify the best velvet dams. Animals that prove not so suited to velvet are put to a terminal sire. The hybrid hinds, some of which were 12–15 years old, are being phased out.

The sheep side has been interesting. The property had a history of footrot in Merinos so the Smiths bought in a flock of 3,000 Perendales along with 200 beef cattle. The Perendales "ate us out of house and home", Hamish said, and weren't very profitable. They made to big call to offload the flock and buy 3,000 Merinos – a move that seems to be paying off, despite the need to manage footrot.







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Southern safari: continued

"Our first Merino wool cheque was more than four times what we got for the Perendales," he said. They are contracted to supply fine wool to Devold, a Norwegian company that makes high-end garments with traceability for customers to see, right back to the farm of origin. The Merinos fit well with the deer, with ewes set stocked for lambing during the busy velvetting period. The feed curves also suit velvetting stags well.

Hamish said they do get a bit stuck when there are a lot of hinds and fawns in the system and said more deer fencing might be needed to provide enough space to grow out replacements. The cattle also fit in well, tidying up behind the deer.

Although undeveloped land with high biodiversity values has restrictions on what can be done, the region's chronic wilding pine problem does provide an opportunity to develop some areas where the rogue trees need control. Development is typically done with spraying out and mulching, 3–4 months fallow and then direct drilling or discing (the tougher country) for ryecorn. Hamish said pH is typically low at 5.4, but can be quickly brought up to over 6 with 2–3 tonnes of lime. Capital fertiliser to raise Olsen P levels from 5–6 to 16 is "dribbled in". The soil "wakes up" two or three years into the development and the ryecorn pasture helps build soil organic matter.

The Smiths have developed a Farm Environment Plan and will fence off certain wet areas as part of that. They are also part of the AgResearch high country water quality research project and are confident that the Quailburn Stream that meanders through the deer block will retain its good health.

Feedback

The visitors were felt strong sympathy for the Smiths given the restrictions imposed on development of the property. They noted:

- Introducing DNA testing to identify top velvet producers would pay off.
- High-profile big corporate development of similar landscapes prior to the current imposition of restrictions and rules had made it tougher for owner-operators like the Smiths.
- Praise was due for focusing on what areas of the farm could be developed and for identifying and building business opportunities around Merino wool and velvet.
- There is an opportunity to leverage the good environmental credentials at Ben Dhu with environmentally conscious consumers.

Braemar Station: No-growth winters a challenge

Like the Smiths at Ben Dhu Station, the **Mackenzies** at Braemar Station overlooking Lake Pukaki had to weigh up the pros and cons of Merinos (usually a good wool cheque, bad feet) and Perendales (modest wool cheque, better feet, good meat). The Perendales won out and they switched in 1996.

Hamish (Mish) Mackenzie recalled that in 2004, eight years after they'd changed to Perendales, the wool cheque for a retained Merino wether flock was \$45,000 versus costs of \$48,000. ("Not bad for farming!" was the quip from one visitor.)

But the Perendales are currently the highest gross income earners on the 2,200 effective hectare Braemar Station. (Deer come second, then people – there's a thriving farm accommodation business – followed by cattle.)

Mish's parents bought the property 50 years ago. They've now retired and **Mish and Julia** (Ju) took over ownership five years ago after returning to the farm in 2000.

The station has had a turbulent history since the Mackenzies took ownership, including the loss of 400 hectares of productive flats when the lake was raised in the 1970s and tenure review, finalised in 2011. The net result has seen an original spread of 26,000 hectares (90 percent of which was Crown pastoral lease) reduced to just under 5,000 hectares. This includes land fronting the lake that was always freehold, plus an additional "buffer" that was purchased as part of tenure review.



Fencing of sensitive areas at Braemar Station is ongoing.



Farm tour at Braemar Station.

The additional buffer land is turning out to be a useful asset, although it does require some wilding pine control. Limited numbers of stock are grazed on this land and for only six weeks a year (it is "sour", cold country). However it can be factored in to calculate nitrogen loadings for the whole property. Ju Mackenzie said its conservation values could provide a useful bargaining chip in years ahead. The only downside is that the district plan forbids tree planting, in order to preserve the (treeless) natural landscape. Native trees don't grow well here. This puts the Mackenzies at a disadvantage when it comes to offsetting emissions, as their carbon budget showed when DINZ used their farm as a case study for its submission on the Zero Carbon Bill.

But to the deer. Mish's father bought 30–40 hinds in the early 1980s for two or three thousand dollars each and let them go for four years. The resulting progeny were then sold, which paid for the fencing and shed. Deer have been a part of the station's stock policy ever since and they now make up 22 percent of the stock units.

It's mainly a store operation, with about 800 hinds going to Forrester stags. Male weaners are sold in May and females kept on either for replacements or for later sale. What to do with the unwanted R2 hinds has been a quandary for the Mackenzies, as they barely grow during the harsh winters. Mish said it may be better to take advantage of autumn growth potential and sell them before the second winter.

The Hawke's Bay visitors were stunned by the length of the winters in this area, with a total lack of grass growth for 120 days until about mid-October.

Mish said they had tried pre-rut weaning at the suggestion of their Advance Party, but it put them about 10kg behind when it came to selling weaners and didn't suit their system. Even with post-rut weaning they get high conception rates and they are now back to selling stag weaners at 59-60kg.



The endangered black stilt (kakī) is a regular visitor to the wetlands at Braemar.

They are trying to tighten up their fawning spread and now take out the stag by 10 May. John Falconer, who was part of the Otago delegation, suggested they should take stags out by 25 April. This would make little difference to conception rates and would give the opportunity to cull the later hinds. Another suggestion by Richard Hilson was to identify late-conceiving hinds at scanning and then cull later.

Ju said the Peel Forest maternal sires were working well for their hind herd and they were also getting good deeper-bodied animals and better velvet genetics, although this wasn't a priority. They were also mulling over an offer to lease B11 stags from Peel Forest to put over their younger stock.

On the animal health front, Mish said copper and selenium deficiency was the main issue. Mish said they test for selenium and find they can be in the "low-to-f***-all range". They were using



Ju and Mish Mackenzie took ownership of Braemar in 2014.

injections for copper and selenium and admitted it made their normally placid deer "pretty mad at us". Selenised drench was another option, but they were considering applying selenium as prills instead.

The Mackenzies won the 2017 Next Generation Environment Award for a "well-run and low-footprint farm operating in an extremely challenging physical environment". Fencing of sensitive areas is an ongoing task, as well as restorative planting of flaxes and tussocks.

Visitors were delighted to see a black stilt (kakī) paddling about in one of the many wetland areas during their farm tour of Braemar Station. It was one of only 132 adult kakī known to exist in the wild.

Clayton Station: Intergenerational development project

The Clayton Station of 1964, when the Orbell family bought it, would be barely recognisable today. It was then five hill blocks and just 12 paddocks on 8,500 hectares. Today it has shrunk to less than half that area (4,100 hectares) and has 25 hill blocks and more than 160 paddocks.

Tenure review in the 2000s, and an earlier retirement of land to DOC, plus a land sale as part of family succession planning, have all played a part in the reshaping of the station. What remains is a highly productive and diverse family farm and intergenerational development project that probes the boundaries while respecting its environment.

Hamish (Mush) and Anna Orbell are running nearly 25,000 stock units made up of deer (28 percent), sheep (41 percent) and cattle (31 percent). A self-described "development junkie", Mush Orbell has been focusing on developing hill country. He has successfully established 80 hectares of ryegrass and turnip on the hill, soon to be replaced with plantain, a species he hasn't tried in this environment before.



Hamish Orbell (blue shirt, centre) talks over hill country development at Clayton Station.

Southern safari: continued

An additional 370 hectares was deer fenced last year and Orbell said the current hind herd of 1,900 could be expanded to 2,300 or 2,400. They have feet in both camps on the deer side. Half the hinds go to terminal sires to provide store weaners – now going to Raincliff Station and ultimately Mountain River Venison. Feedback on the performance of the weaners from the finishers helps when it comes to tweaking genetics and management. The other half go to maternal sires. There is a velvetting mob of about 500 stags – Orbell is happy to admit velvet and trophy are his greatest passion with deer. Last year they averaged 5.6kg off all stags including 2-year-olds.

Mindful of the constraints – they have very cold winters and a lot of snow – nearly everything is sold store from all stock classes. "We just fatten a few lambs depending on the season," Orbell said.

The station has a good environmental record and a Farm Environment Plan has been completed. The Orbells won the 2015 Firstlight Environmental Award for farming sustainably with a strong customer focus. They have fenced off a 3-hectare

wetland area on the flats, which have been tricky to manage because of willows choking the waterways and lifting the water table.

Orbell said they are keen for the deer to be able to make the best use of the available feed on the hill country. Achieving target weaning weights has been a challenge at



Hamish Orbell shows off the velvet from a recently purchased Rupert Red Deer velvet sire.

times and they have successfully used Advantage Feeders to boost hind condition and fawn growth. This has contributed to earlier conception by up to a fortnight. However the tough climate can still play havoc with plans, and Orbell said that both drought and heavy snows have knocked hind condition in recent seasons and meant lighter than average weaning weights. The good weather that accompanied the Advance Party visit continued at Clayton Station and the group was able to be taken to the top of the back country at 900 metres to get a better feel for the diverse landscape.

Feedback

The comments and ideas flowed freely during a constructive feedback session on the hilltop. They noted:

- The plantain on the hill paddocks costs \$400-\$550/ha depending on the amount of lime needed.
- While many thought there was potential for more stock to be finished at Clayton, Orbell said they were wary of being caught with no feed in a drought.
- The Orbells were congratulated for involving staff in decision making. Orbell said they had good staff who were growing in confidence. "Sometimes we have days where the staff can do all the talking and ask the questions."
- It was suggested that more use of cattle on the hills to control tag would encourage greater spring growth. Use of chemical topping on the hill was also suggested. Orbell said they were considering that but noted the tag also acts as winter feed.
- Selecting for venison traits like eye muscle area was suggested. Orbell said that was part of the potential for venison breeders and finishers to band together and sell their product linked to a strong story about the origins of the product and their unique farm environment.
- One well-known Otago farmer noted that "we both need to think about replacing some of our dads' old fences".
- Using 2-year-olds rather than spikers for mating was suggested because the velvet and growth rate performance of the sires was a bit clearer by this age. Putting them with the hinds early was also suggested, "even if you have to get them back to cut regrowth".

Peel Forest Estate: All genetic bases covered

The final farm on our itinerary took us well outside the Mackenzie Basin to Graham and Robyn Carr's Peel Forest Estate (PFE), near Geraldine. Stud manager Mark Tapley hosted a whirlwind tour around the 2,800-hectare farm (1,600 ha flats and a 1,200 ha hill block), which features a unique genetics business alongside large

> commercial-scale velvet and venison enterprises that also act as a proving grounds for the genetics.

Tapley said trophy was once the flagship of PFE and while it's still important, it is kept separate from velvet, which now dominates the antler side. There are about 300 mixed-age trophy hinds and a busy 3-day embryo transfer programme each year. Most is for velvet and venison genetics in New Zealand with a small portion devoted to export sales to the United States, Canada, Argentina, Slovakia and others.



Top team: Southern AP Safari hosts and visitors take time out for a group photo at the top of the back country at Clayton Station.



Peel Forest Estate's 1,200-hectare hill block.

A commercial venison herd is run on the hill block and is being built to 500–600 hinds. Most of the stud hinds are kept at the separate Lincoln Hills block, where they are mated and fawned.

PFE has been developing the Forrester English red maternal venison sire producing a compact, deep-bodied hind of about 118kg. And although it's not the main focus, the Forresters also have good velvet genetics and produce good spiker velvet weights, a bonus for venison producers.

Their B11 venison sire is a composite of about 50 percent Wapiti, 20 percent European and 30 percent English with good growth rates. All the B11s are sold privately while about 55 Forresters are sold at auction and others privately.

Tapley said identification of Johne's-resistant lines at PFE was helping with breeding resilience to the disease. The new CARLA research BV was also of interest and they were actively promoting sires with high values for this parasite-resilience trait. (In a discussion on the importance of maintaining genetic linkages between studs, Otago's John Falconer said it was important for individual breeders to step up and make sure this happened, since AgResearch and Deer Select couldn't be expected to take the entire responsibility for, and costs of, maintaining good linkages throughout the industry. It was hoped DINZ would provide leadership in this.)

Selling velvet stags is a relatively small part of PFE's business, Tapley said, but velvet genetics feed into a very big commercial velvet operation on the properties. "Breeding the correct style and bloodlines is very important to us," he said.

More than 4,000 stags are velvetted, with the mixed age animals averaging 6.1kg. Last season they cut 22 tonnes and this year they are heading for 25 tonnes. As well as the walk-in freezer in the deer shed there are two refrigerated containers, each holding up to 7 tonnes.

continued on page 12



Southern safari: continued

Tapley said regrowth is measured and recorded for each stag. "That's important, because the regrowth can save a stag that might otherwise have been culled based on the first cut."

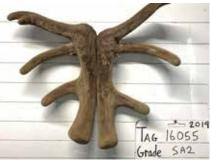
There's a



B11 yearling stags at Peel Forest Estate. The shaved patches are from where they have been scanned for eve muscle area.

sophisticated data capture setup in the velvetting shed at PFE, with each individual head photographed and recorded with the tag number, weight and grade. Tapley said this allows an operator to look over an individual's earlier heads to see whether one poor head is an aberration, or a trend. Using their TSi and Gallagher software with the scanning wand removes a lot of human error and saves time, he said. A GoPro camera and screen setup in the shed means the operator can easily see the data on the TSi screen for each animal as they come through for velvetting up on a large television monitor overlooking the crush.

Stock are wintered on fodder beet, kale and lucerne baleage and silage and the velvetters are now going straight onto red clover in spring following winter crop. Tapley said some palm kernel is still



Each head is photographed and recorded during velvetting

hand, so they will be able to spray out more paddocks for pasture renewal. They use a perennial ryegrass with red and white clover and plantain on a three-year rotation. Lucerne is grown on the drier parts of the flats for cutting rather than grazing.

On the environment side, PFE has invested in amenity plantings over many years to provide shade and shelter and has done extensive stream restoration and protection work. They've just completed 5km of stream fencing and Tapley said the proposal for a 5-metre setback for fenced waterways in the Government's Action for healthy waterways discussion document had caused them some dismay given the investment they've just made.

The farm tour concluded with a display of some of this season's three-year-old velvet, including one specimen weighing in at 10.26kg.

Obituary: Jim Cameron

Jim Cameron speaking at a

It is with much sadness we acknowledge the tragic and untimely passing of Jim Cameron, a quiet achiever with a generous nature and appropriately described as a "proper kiwi joker".

JIM WAS VERY much a

giver, not a taker. This was well reflected in his role as chair of the Fiordland Branch of NZDFA for the past six years. In this capacity, Jim had represented the interests of all deer farmers in Fiordland (both red and wapiti) at a national level. He was a person of not many words but one who, when the occasion demanded, was not afraid to speak his mind.

Regional Workshop at Connemara Tony Pearse commented: in 2017.

"I enjoyed many great times,

especially the one-of-a-kind Fiordland velvet competition, where Jim as chair remained the undisputed champion of 'informal and understated'. His commentary was brief but full of warmth and humour as he went about his duties. It was always about the people there and the competition, not about being 'the boss'."

Stockmanship cannot be taught but is innate and it was an attribute Jim had in abundance. This was evident throughout his farming lifetime. His competence and ability handling stock, and in particular wapiti deer, was exceptional. Jim's journey of personal development saw him embrace new challenges and master new technology which played a significant role in the meteoric rise of Connemara Wapiti Stud where Jim had been manager for the past seven years.

He was a strong and active member of the Wapiti Advance Party (AP) and was in his element in the AP philosophy of "farmers learning from farmers". He freely gave of his experience and knowledge to the benefit of other deer farmer members.

An astute man with figures, he could very quickly sum up a situation - "it's simple, that costs 5 cents/kg dry matter" much to the amazement of discussion participants. Never one to grandstand or seek the limelight, Jim had to represent his AP at a national conference a few years ago. Rise to the occasion he certainly did, giving a commanding presentation laced with understated Jim Cameron humour, which will remain a great memory for many of us.

He was a thoughtful, considerate person with a calm nature. Nothing was a problem to Jim and he always had a practical approach to problem solving. His many contributions to the deer industry will be missed.

A devout family man, Jim was fiercely proud of his wife and children. Our condolences to Jacinta, Joshua, Ellish and Natasha.

- Contributed by Dave Lawrence

used but it makes more sense to grow feed on the property than buy it in, and they see a time when PK won't be around. This year they have the luxury of not needing to make any grass silage because they still have plenty on



Five kilometres of waterway fencing has recently been completed at Peel Forest Estate. They are concerned that the suggested five-metre setback for fenced waterways in the *Action for healthy waterways* discussion document could render this work redundant if it became law.

What we learnt

Before the visitors dispersed, they shared their impressions of an excellent three-day tour of South Canterbury's finest. Here's what some of them said.

"I'm going to copy some of the gizmos that hang off the weigh cells [at Peel Forest]. Some of the stuff you're doing is inspiring. We all have issues about the environment and the rules being put on us, but it's good to see there are similar strands throughout the country." **Evan Potter, Elsthorpe**

"This has been a great way to get people together off farm and improve their wellbeing. I've also liked the way you guys do pasture improvement. You just attack the problems head on." Karen Middelberg, Waipukurau

"It's been a massive learning curve for a newcomer like me to see how you do things on such a big scale. I liked the professionalism of the way you handle data management, and I can transfer that to my smaller operation." **Ben Anderson, Ongaonga**

"It's refreshing as a new person to see how willing everyone is to share their wins and losses. The take-home for me was about importance of the right type of feed for each stock class at the right time of year."

Nick Sowman, Havelock North

"Being with like-minded people has reinvigorated my ideas. It's also been interesting to see how the industry is dealing with public perceptions, red tape and looking to the future." Sean Becker, Ranfurly











"It's been great to see this farm [Peel Forest] scoring an A on their environment audit." Julie Pearse, Mosgiel

This amazing week reflects where the industry started – by sharing experiences, analysing it and taking it to a new level. My take-home is about the power of data and where it fits in with your longer-term view." **Tony Pearse, Mosgiel**

"It's been good to see the confidence this networking is giving people. A lot of experiences are shared, but local conditions can be different as well." **Simon Glennie, facilitator Otago AP**

"I've been impressed by the good data management I've seen. The [Mobstar] app that Mark [Tapley] has developed really helps you keep track of where your stock are and what they're feeding on. That could be huge in the future." **Brendon Wilson, Outram**

"It's been the diversity and scale, and seeing how you have to get the timing of pasture management spot on. Also the things you're doing in the shed have given me ideas for things I can fix up at home to make life easier." Matt von Dadelszen, Waipukurau

"The small windows you have for your growing seasons make me realise our winters aren't so hard. It's made me think again about how we winter at home."

Ru Gaddum, Hastings

"Tree boxes – just some posts and reinforcing mesh – are a great idea. We've also liked seeing how you use the ryecorn and lucerne. We'd like to manage the [lucerne] plant better for our deer. Hats off to Glen [Harrex] and Simon [Glennie] for kicking off this AP tour idea. Other groups are starting to ask about how to do this. You wouldn't get sheep or dairy farmers doing this!" **Richard Hilson, Waipukurau**















Breeding success: Genetic gains explored

by Tony Pearse, Producer Manager, DINZ

The nuts and bolts of deer genetics and using breeding values got a thorough examination at a P2P Regional Workshop held at Foveran Deer Park on 27 September. The day was hosted by the Mackenzie Advance Party and the South Canterbury/North Otago DFA.

FOVERAN DEER PARK Manager Barry Gard introduced attendees to the property and explained the farm's breeding objectives. (See more about Foveran Park on page 4.)

Deer Select breeding values

Deer Select Manager Sharon McIntyre noted that although Deer Select was not centred around hard antler and trophy, many antler traits like velvet weight had high heritability. Breeders know hard antler well, and had made huge progress in point count, antler score, and hard antler weight and style.

She said the Deer Progeny Test (DPT) had focused primarily on growth, carcass and venison breeding values (BVs), and new reproduction BVs have become available.

Conception date: Selection for earlier fawning

A Central Otago venison producer concerned about summer dry conditions coinciding with peak lactation demands has aggressively used early conception date as a key selection trait. The property's first fawns now appear on 16 October with the whole herd finished fawning just 21 days later by 6 November at the end of the first oestrus cycle.



Foveran Deer Park, which hosted the Regional Workshop with the Mackenzie Advance Party and SCNO DFA.

The impact has also been seen in results from first-fawning hinds. They shifted from a 70 percent weaning rate based on the traditional mating season, to 100 percent in fawn at scanning, while being well grown and maintaining high body condition scores (BCS). They were 9–12kg heavier than before this selection for early conception. The conception date trait (CDeBV) is expressed as a negative value (days earlier than conception date for hinds recorded at the initiation of Deer Select in 1995). Conception date is determined by fetal aging at scanning (bit.ly/20Irif2) and can be accurately determined by experienced scanners (bit.ly/2YbgkBy).

The net effect has been that venison has been produced more efficiently, capturing more of the higher-quality spring and early summer pasture growth during lactation. As a result, weight at slaughter 12 months later has substantially improved. However, McIntyre warned, there can be some negative impact on reproduction (e.g. higher maternal weights also imply a higher required weight at puberty for successful first fawner mating).

Carcass yield

Quite a number of meat yield traits were defined as part of the DPT, which concluded in 2015. These included Carcass Weight, Lean Yield, Fat Yield, Shoulder Lean Yield, Loin Lean Yield and Hindquarter Yield.

Since then, two new Deer Select BVs, (Loin) Eye Muscle Area (EMAeBV) and Lean Yield (LYeBV), a proxy for saleable muscle, have been developed.



Eye muscle area is a strong proxy for other carcass yield traits.

Eye muscle area is best done when the deer are in early summer coat (close shaving to skin level and ultrasound reading of the lineal dimensions are used to calculate the area).

Deer can also be scanned more accurately via CT scan, although this is 40 times more expensive and is labour intensive.

McIntyre reported that the top deer are showing +7cm² total in EMA measurements. "This is huge and is a strong proxy for overall

carcass yields and other growth parameters. Top animals are showing a +10kg advantage for mature weight (MWT)."

Implications are for large hinds, heavier weaners and greater carcass weight. High growth-rate sires will have increasingly larger daughters, but with some wider variations. Farmers pursing this track will also need to manage the greater feed demands and adjust targets and seasonal feed levels, for such high-producing animals, McIntyre said. "There will also be greater expression of sexual dimorphism in the relative sizes of males and females at the same age. The kill season will be based on a 12-month start to finish, rather than the customary 15-month range."

Deer Select can combine these objectives into an economic index by balancing yearling reproduction with growth rates, meat yields and mature weight, or an index focusing on value as terminal sires, based on growth rate and venison yield alone.



Sharon McIntyre noted that high-growth BVs go hand-in-hand with breeding increasingly large hinds.

CARLA: parasite resistance research BV

"CARLA" is short for **CA**Rbohydrate Larval Antigens that are secreted by deer in response to invasion by internal parasites. Levels of resistance are scored using a saliva test that measures the antibodies triggered when animals ingest internal parasites. The test is based on one developed by AgResearch for the sheep industry, where CARLA BVs are now routinely used.

CARLA responses in deer are reasonably heritable and levels of the antigen may be a useful predictor of resistance to internal parasites. This resistance varies both within and across breeds, with wapiti-crossbred (terminal) and red (maternal) progeny having similar responses.

The higher the CARLA value, the greater the genetic parasite resistance potential. Some breeders are now including CARLA research (r) BVs in the genetic information provided to prospective purchasers of sires.

Velvet BVs

Two modifications have been made to the velvet antler BVs (velvet weight at 2 years (VW2) and velvet weight mature (VWM) for animals 3 years and older. McIntyre said these traits are strongly heritable (-85 percent) as is clear from the rapid increases in velvet weight across all age groups. She noted that there was a lack of information related to the female lines and their contribution in velvet antler production.

BV discussion points

 Attendees asked if any work been done about the relationship between antler size and the pedicle size and whether any heritability trait been developed. It appeared none had been done.

- McIntyre raised her concerns about maintaining between-herd connectedness for red and particularly wapiti herds. At least 25 progeny from linked sires are required for recording across a small number of properties.
- Is velvet regrowth heritable? Discussion suggested that while there was a seasonal and age link with first cutting for correct grade, some sire lines were noted for exceptional regrowth.
- For existing and new traits, good reliable phenotypic measurements are essential – reliable data collection, accuracy and recording repeatability were critical.

Further suggestions for genetic development included: early and sustained growth without the hassle of also managing late fawns; a return to pure bloodlines rather than composites; parasite resilience; earlier kill of yearling hinds but at higher weights (less sexual dimorphism); selection for velvet and hard antler traits; selection for deer milk production (volume, milkfats and other milk solids, milking temperament, tractability); selection for venison quality (meat-to-bone yield, tenderness, etc).

Setting breeding objectives

Tom Macfarlane, The Kowhais (Fairlie), explained that in setting breeding objectives the key was a whole-systems approach. They had conducted a SWOT analysis incorporating pasture growth profiles, the type of deer farming country, strategic supplementation and integration with other stock classes. The Kowhais had pasture management challenges and a summer dry risk, threatening feed quality.

Macfarlane is focused on early finishing, high carcass weight, early venison production – avoiding the summer dry risk. The Kowhais sources venison weaners via its own breeding programme and through purchase of store weaners in autumn.

He acknowledged there is some trading risk with buying in weaners and leaving their genetic origins in other people's hands, but over time will build up a group of suppliers who have bought into the wider breeding programme and objectives. Currently there is huge variation between lines, but good data analysis will greatly assist with ongoing purchase decisions and provide the means to reward breeders for their efforts. The other major challenge is parasite management.

Weight at 12 months (W12) is a high priority, although some control on hind size is important. Again, this trait is a key part of Deer Select recording and evaluation.

Hinds at The Kowhais average 130–140kg mature weight and the system is set up to maximise their ability to feed these properly so that all male progeny are on the hooks by the end of October. Macfarlane believes they have the best balance of systems for the farm and reported a high conception rate of 97–98 percent, although there can be survival issues.

Questions were asked about the quality and reliability of the data that defined meat-to-bone ratio. Macfarlane described the positive correlation between eye muscle area (EMA) and increased meat yield. Measuring is costly but can be streamlined by using the ultrasound initially and then sorting out the leading contenders by CT scan. "You have do the basics well," Macfarlane said.

AbacusBio's Dr Neville Jopson agreed, saying "gains are there to be had, but the data has to be captured effectively".

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Genetics regional workshop: continued

Setting a direction

The following key messages emerged in further discussion:

- Decide what the ultimate business plan and goals are.
- Align the available stud genetics with these expectations.
- Pay the bills during the transition using a rapid turnover and lowering generation intervals.
- Record maternal traits accurately.
- Balance early, fast growth with a relatively moderate mature hind weight these breeding objectives can conflict.
- Watch traits that aren't direct measures of growth but still affect it CARLA is a good example.
- Also consider conformation, durability, hardiness (longevity) and good temperament.

The genetic basis for variations in milk yield, seasonality of growth and individual greenhouse gas emissions, based on all-grass intakes, were also suggested as useful areas of future research. Clayton Station's Hamish Orbell suggested selection of suitable species (e.g. Ecotain plantain) and looking at the integrated approach to animal and plant genetics could also help reduce parasite burdens and decrease performance-limiting stress.

Sharon McIntyre and AbacusBio consultant Neville Jopson, another speaker at the workshop, said points like those above were useful as they helped farmers put some structure and direction around their decision making.

Effective hind selection

Neville Jopson has a background in deer biology and CT scanning and played a major role in developing the meat module for Deer Select.

His message was simple: "Find a breeder who is already doing what you want to do and stick with that. A breeding objective needs to the stripped down to your elevator pitch so you can describe in under 30 seconds what's your goal and why."

For selecting the right hind, Jopson is a big fan of simplicity. "Focus on the minimum number of traits that fit your breeding objectives." He reminded all that the genetic gains are permanent and pass from generation to generation. Maternal improvement is a long-term game and works best in a steady state system with large gains possible over 10–20 years. Body weight increase has been a very good example and is a good trait, but there needs to be a consideration of how big is too big, he cautioned.

Jopson advised that males can also be selected for key female traits (e.g. early conception) and vice-versa (e.g. hinds selected on velvet weight BVs).

Doing this efficiently and accurately required a commitment to verifying pedigree and parentage, he added. "Without that it's hard to make genetic progress."

For years in commercial herds, most selection has been based on phenotype rather than genotype and selection preferences are more based on that individual's reaction to its environment where we see the expression of the genetic variability between individuals, he said. "Where the heritability is high, you will see progress to an extent."

Jopson proposed that you can still make good culling decisions based on phenotype and these have been traditionally used, for example:

- removing the heaviest hinds
- conformation
- body condition score
- reproductive success
- physical faults.
 "To make a

difference, true hind selection requires consistent measurement of a trait. That's not always easy. Take



For hind selection, focus on the minimum number of traits necessary to fit your breeding objectives.

meat quality traits; how do you measure those in commercial herds?

Breeding programmes also need watch for negative associations, he cautioned. High growth rates and increased mature weights go hand in hand. "It is possible to break the correlation, but you need to consider the impacts on things like body condition score, longevity, hind retention and conception dates."

Impact of stag selection

Most stags at a 1:40 mating ratio over three years have a maximum potential of 120 progeny. Hinds might average six matings and produce six progeny. The hind is the genetic vehicle, but genetic change is driven by the stag and the progeny of the hinds. Less than 5 percent of the opportunity for genetic improvement is created with a focus on individual hind selection. A top stag will influence the herd for up to 10 years. Most of the impact is in the first five years but it can still be significant at 10.

"Judicious use of genetics in deer can create massive differences," Jopson said. "The deer industry is only at the start of its genetic improvement programme and has the good fortune to have access to world-leading technology on a shoe-string budget. The industry has great leverage off the work done in other industries. And you still have significant opportunities via hind selection."

Maternal EBVs

The identification of more maternal traits in stags beyond growth rate is becoming increasingly important. These are particularly relevant for velvet antler where hind selection can be enhanced using DNA parentage data and systematic recording and pedigree confirmation at the elite herd level. Tools also exist for the commercial herd and female selection.

Cheap DNA tests are available via GenomNZ. For velvet, the benefits are considerable and rapid genomic selection is just around the corner. In sheep, the generation interval (GI) can be shortened to one or two lambings, and while GI will be slightly longer in deer, the key is the same: good record keeping backed by DNA confirmation of pedigree and the potential for genomic selection.

Jopson said the next steps are to develop inbreeding coefficients, support a CARLA genomics trial and ensure there is good phenotypic data to support that.

Getting genetics? Get a plan first

by Jamie Ward, AgResearch and Phil Stewart, Deer Industry News Editor

The sire selling season is in full swing and if you're heading to the auctions with bidding on your mind, remember that when the hammer falls on the sires of your choice, that decision could shape your breeding herd for 10 or even 20 years.

AND WHILE IT can be a big financial investment, it's the impact of those sires' genes that you should be thinking about first. So where to begin?

Farm system

Your farm system provides the big picture context for your decisions, looking at where your profit comes from, what you can grow within your environment, how other stock classes fit in with your deer and what you are most passionate about.

On the deer side, where will you make the most money? Breeding only? Breeding and finishing? Velvet? A combination?

Not sure? Look at the indexes first

To get a clearer picture of the genetic traits that might provide the best financial returns for you, it can be useful to look at the Deer

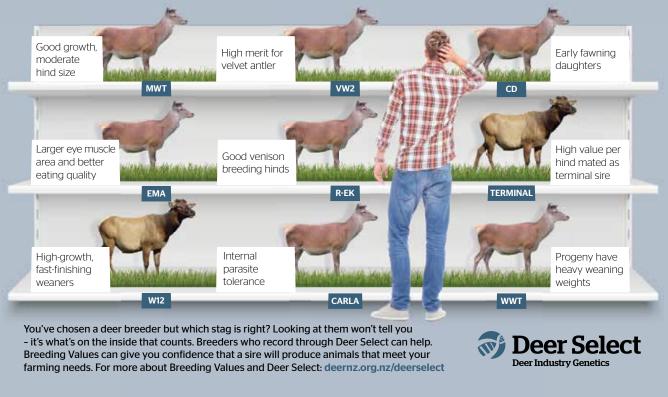
Select tables ranked on some important economic indexes.

Replacement – Early Kill (R-EK): This index (expressed in dollars) ranks the additional financial return per hind mated for stags that produce efficient daughters that get fawns on the ground early and produce sons with early heavy, meaty carcasses. These stags have traits that are good for breeding replacement females and venison males. The index includes weightings for female reproduction and mature weight, cost of feeding for growth and early sale prices of venison. It's possible that two sires with the same economic index have quite different breeding values for individual traits, so it's important to look for sires with the highest BVs that are of most value to you.

If your system is better suited to a later kill date, with heavier carcass weights and the extra income from spiker velvet, there is also a **Replacement – Late Kill** index (**R**–**LK**).

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Which one's right for you? Start with a shopping list!



Genetics planning: continued

Terminal: This is more straightforward because the focus is purely on breeding males and females for venison. Sires that are high up the Terminal economic index have progeny that grow fast and have good carcass traits (e.g. high yield, good eye muscle area).

Maternal sires

These are used to breed replacement hinds but not all female progeny will be kept, and the male offspring may all be produced for venison or velvet, or perhaps a bit of both. Because these sires have multiple roles (e.g. breeding fertile, early-conceiving daughters and meaty, fast-growing or quality antler-producing sons), you'll be looking at multiple traits when checking over a breeder's Deer Select breeding values for various sires. Be aware that some sires can be capable of producing large sons but smaller daughters, which could be useful when looking for venison and maternal (i.e. hind size) traits in one animal. That said, it's unlikely you'll get everything you want bundled up in the one sire (also remember each parent only provides half the genetic makeup of their progeny), so you'll need to prioritise key traits to make the best gains. See the summary of the main traits in the box below.

Pedigree is an issue with maternal sires because you need to avoid inbreeding and maintain genetic diversity in your herd. Deer Select can provide pedigree information but also discuss this with your breeder to ensure your sires aren't too closely related to your hind herd when breeding replacements.

Terminal sires

There are various breed options for terminal sires, including red stags with BVs for high growth, elk/wapiti bulls, or specialised terminal sire lines that are a mix of elk/wapiti and red. Each option has its own strengths. The choice comes down to the capabilities of your breeding hinds and your preference, and your ability to provide enough of the right kind of feed at the right time, so that the genetic potential of the progeny is realised.

For terminal sires carcass weight (CW) is key. Lean yield and eye muscle area should also be considered. You might look at growth BVs, such as autumn weights, weaning weights or weight at 12 months, to fit your feed profile over the year. Because all progeny are going to slaughter, you don't need to worry about pedigrees for inbreeding, so you can stick with the same sire lines over time if that suits you.

Work out your breeding goals

Take a hard look at your current capital stock. Are they providing what you need to get the best out of deer in your system, or are there areas where you could do better? For example, are you getting fawns on the ground soon enough to take advantage of feed available? Are your hind weights right for maximum productive efficiency? Are you satisfied with weaning weights or carcass weights? Do you want to boost your 2-year velvet weights?

To improve on these and other performance indicators, there are heritable traits that you can use when selecting the right sort of sire and finding the breeders who can provide you with what you need.

What about about your terminal sires, whether you're finishing your own stock or selling weaners to another finisher? Are they



A look at your farm system is a useful starting point for working out your breeding goals and then the traits or Breeding Values that are most important to you.

providing what you want or your market wants?

Boil it all down to a breeding goal. This can be quite simple. For example, it might be:

"I want compact, fertile hinds that get fawns on the ground as early as possible, lactate well and provide heavy weaners that get a good head start going into winter."

Or it might be: "I want a terminal sire that ensures I get male and female yearlings away before the Christmas dry."

Once this is clarified, find a breeder whose breeding goals match your own. Talk over their focus and vision for particular traits, or breeding values, that match your own. Look through their latest Deer Select results and pinpoint the sires that will provide the best match with what you're looking for.

Breeding values – a quick reference

Growth BVs

- Weaning weight (WWTeBV)
- Autumn weight (AWTeBV)
- Weight at 12 months (W12eBV)
- Stag mature weight (MWTeBV)
- Hind mature weight (MWTeBV)

Reproduction

• Conception date (CDeBV)

Venison

- 12-month carcass weight (CW)
- Carcass lean yield (LEANY)
- Carcass weight adjusted eye muscle area (EMAceBV)

Health

• Parasite resistance (CARLA rBV)

Velvet

- Velvet weight at 2 years (VW2eBV)
- Mature velvet weight (MVWeBV)

Economic Indexes

- Replacement Early Kill (R-EK)
- Replacement Late Kill (R-LK)
- Terminal (Term)

Further information:

Deer Select: deernz.org/deerselect **"Keen on Genes" podcasts and videos:** deernz.org/deerhub/genetics

Carbon and trees explained at workshop

by Mike Bradstock, Deer Industry News writer

Tony and Lynda Gray hosted a workshop on carbon and trees on 4 September at their farm in Pohangina Valley, Manawatu, at a joint Passion2Profit Central Regions Advance Party and DFA event, convened by facilitator Pania Flint.

THE PROPERTY IS 418ha, but only 270ha is farmed. Most of the balance – 125ha – is in QE2 covenants (potentially eligible for the ETS). Gorges, scrub and poor land are fenced off to regenerate. The farm runs 900 breeding ewes, 70 breeding cows and replacements and 330 breeding hinds, with weaners sold for



Lynda and Tony Gray. Photo: Trevor Walton.

finishing.

The day started with DINZ Environmental Stewardship Manager Lindsay Fung presenting an overview of DINZ's submission on the Climate Change Response (Zero Carbon) Amendment Bill. He is lobbying central government for fair dealings in regulation of climate change, freshwater management and nutrient management. Fung also works with regional councils and deer farmers through groups such as Deer Industry Environment Groups and Advance Parties to help deer farmers prepare and action Farm Environment Plans.

DINZ, along with the NZDFA and others, put in a submission on the Bill and supports the Bill's aim to create a framework to achieve the Paris Agreement goal of holding the increase of global temperature to well below 2°C above pre-industrial levels. Key areas in DINZ's submission are:

1. Recognition of food production. New Zealand policy sets out the framework to meet its obligations to the Paris Agreement. All signatories have to state their efforts to reduce national limits and adapt to climate change. New Zealand has agreed to reduce its greenhouse gas emissions to 30 percent below 2005 levels, by 2030. Fung said the current Bill does not properly recognise an important goal of the Paris Agreement: "to foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production." DINZ would like to see this explicitly included in the legislation.

2. Unfair treatment of methane producers. Methane has a greater global warming effect per tonne than carbon dioxide, but the total impact of methane is less, largely because it is much shorter-lived. It breaks down to carbon dioxide and water in the atmosphere over 10–14 years. Methane emissions do not need to be reduced to zero to achieve the objectives of the Paris Agreement.

Fung said that while the Bill recognised the difference between these gases, DINZ would prefer to see an on-farm total greenhouse gas balance so farmers could offset their methane emissions through similar mechanisms available for offsetting carbon dioxide. Under the proposed regime, farmers would need to reduce methane production per animal, or keep fewer animals. But reducing methane production per animal isn't feasible yet, leaving only one real option. This is considered unfair and threatening to food production. DINZ also challenges the science behind the actual targets set.

Fung presented an example of a range of options that a farm could take to achieve or work towards their emissions reduction targets. Replacing beef and deer with sheep would marginally improve carbon balance, but nitrification inhibitors had a small effect. He noted that there is minimal desire to increase sheep numbers as this would add complexity to the farming operation. In addition, increasing sheep numbers would negatively affect profitability.

Retirement of a modest amount of land (5 percent) and planting



This area of bush on the Grays' farm is in a QE2 Covenant. Photo: Trevor Walton.

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Carbon and trees: continued



in pine trees could achieve a large (38 percent) reduction, although the farm does not have marginal land available for this.

Stuart Orme of Forest360 then spoke about the economics of carbon sequestration on farms. "You really need to be informed about the opportunities," he said. For example, there are strict conditions as to what qualifies as "forest" for the purpose of entering the ETS (see sidebar).

Getting started on carbon management

- Post-1989 forest land is eligible for the Emissions Trading Scheme. Register to obtain carbon credits.
- Act soon. For example you only have until late 2020 to register older and second-rotation forests planted since 1989, if you want to take advantage of the annual carbon allocation (sawtooth model).
- To get started, go to bit.ly/2nOmC80. You need a RealMe account to log in. The MPI/Te uru rakau website includes a mapping tool. MPI can help you register qualifying forests.
- Know the rules. For example, every eligible forest must be at least 1 hectare and have a potential canopy cover of 30 percent. It must average at least 30 metres width when mature and eventually reach a height of 5 metres. These and other details will influence the way you plan your plantings.
- The definition of "forest" doesn't include trees grown primarily for fruit or nuts.

Accounting change coming up

From 2021, international accounting of carbon units will follow the Paris accord that uses an "averaging system". This way, the amount of enduring carbon is calculated based on the length of the first rotation. Existing forests in the ETS can be entered in the next 12 months under averaging or "saw-tooth" systems but from 2021, saw-tooth will not be available. Saw-tooth involves gaining NZU¹ carbon credits while the forest is growing and then surrendering units on harvest. Averaging is an internationally accepted way of accounting average carbon stocks over long periods including harvests. By shifting to an averaging system, there is less risk involved with a volatile carbon market but also less flexibility to

¹ The primary unit of trade in the ETS is the New Zealand Unit (NZU), also called a carbon credit. One NZU represents 1 tonne of CO2 (or the equivalent for other greenhouse gases).

change land use.

Orme presented a table showing the average NZUs accumulated per hectare per year by different tree options at different stages of growth. Accounting is over 5-year periods. The table showed the equivalent value of units at \$25/NZU. For example one hectare of *Pinus radiata* between 16 and 20 years can generate 179 NZU, a value of \$4,467 over that 5-year period.

"Some farmers might plant for other reasons but they should still consider claiming carbon credits – for example poles for erosion control and shade in summer; or letting scrub or manuka revert for honey production. The return may be lower per hectare, but the carbon credits are still a bonus."

Another opportunity was to utilise funding available to establish plantings, he said. Grants for planting and fencing are available from the Government via the One Billion Trees (1BT) fund and also from regional councils. The former

Trees (1BT) fund, and also from regional councils. The former offers different levels of funding depending on the species planted, e.g. native plantings (not reversion) are funded at \$4,000/ha and exotic forest at \$1,500/ha. Various top-ups are also available.

The 1BT fund cannot be used to replant pre-1990 forested land or in conjunction with other funding schemes. However, it can be used for areas of 1ha+ for natives and 5ha+ for other species, and for riparian planting. "The take-home message is to take the opportunity," Orme said.

Applying for grants "while it lasts"

- For basic grant rates see bit.ly/2m6vxoY
- For information on how to apply see bit.ly/2noFHrq

Payments are made in instalments as milestones are met and there is plenty of time to meet milestones after the application is made.

Before making an application, Orme recommended getting an expert to help map out the farm and identify opportunities and solutions. He presented an example of a hill-country farm with existing pre-1990 forest to be felled, marginal land for forestry, and areas for erosion control and riparian. Solutions included poplar poles replanted in pre-1990 forest, linking areas that did not meet the forestry definition by double-row planting and some plantings outside the riparian zone to ensure the average width was at least 30 m. The right planning would produce significantly improved environmental outcomes (erosion control and water quality), create bird and bee habitats and generate income from apiaries.

The key point is planning for maximum benefits. For example Horizons Regional Council can prepare a free Sustainable Land Use initiative document (SLUI plan or Whole Farm Plan). This maps out land-use capability areas to help with applications for consents, funding and plans for environmental critical source area management and areas to be planted in forest. There are no obligations to carry out any works after preparing a SLUI plan. The rules and assistance available vary between regional councils.

Doing nothing is risky

Orme said that the greatest risk is not taking the opportunity. "Climate change isn't going away and the ETS has been in place for 11 years. Overall the risk is low. If the price drops, it will be cheaper to buy back units at harvest if you entered under the sawtooth model; if the price goes up, the value of the asset will increase."

Grays' farm shows benefits

The most dramatic illustration of the benefits of planting trees came from Tony Gray himself. Just after he bought the farm in 2004, a massive storm caused heavy slipping of unconsolidated sandstone that destroyed pastures, fences, culverts and access tracks, and deposited debris on the public road through the farm. He estimated that 9.6ha of the farm area slipped. "Storms like this will happen again but tree planting has greatly reduced the likelihood of severe damage."

Kevin Rooke (Horizons Regional Council) has worked with Tony for many years and pointed out that the Grays' Whole Farm Plan was the first plan prepared.

Most years Tony planted 100–150 poles and after 7–8 years "the hills stopped moving". As these trees mature, form pruning to one leader reduces sail area during high winds. At spacing of at least 15m, a 30 percent canopy cover can be achieved with minimal effect on grazing. Leaves from willows have an extra benefit as an anthelminthic when eaten by stock.

Tony would not do much differently, although he admitted "we may have overplanted a bit in some paddocks". He plans to make

more plantings at a couple of sites: manuka on one; potentially trees for wood pulp at another.

On one hillside planted in Douglas fir from 2012–2014, slippage has completely stopped. These trees are on a 50-year rotation. Planting on this site was about protecting access and farm assets. Tony and Lynda chose this species because of occasional snow (when 0.5m fell 2 years ago, pines and macrocarpas were more damaged than the Douglas firs).

Kevin Rooke recommends different cultivars of poplar and willow for regions with different climate and wind challenges. "Here, the best variety is Kawa."



Tony Gray (right) explains how the Douglas firs (background) have arrested slipping. Photo: Mike Bradstock.



Hot tips for the velvet season

Using the new NVSB velvet tags

- This season's tags are self-adhesive wristbands. Do not use any more cable ties.
- All tags are packaged in sleeves of 50.
- These tags have both a barcode and a unique number. The unique number is the identification number to use this season when recording.
- Tags are not in sequential order, but the top and bottom tag number range is always on the outside of the pack, e.g.
 940106625800-940106625849 = 50 tags
- When reading the actual tag numbers drop off the last number in the sequence as this is a barcode number only, e.g. 940106625800 6
- **Do not wrap tags tightly** around the antler at any stage as this could damage the velvet during processing.
- Where the beam is too large for the tag to wrap around, place the tag above the first tyne on the stick.
- When sticking the ends of the tags together, don't touch the sticky end as this will lessen the adhesive quality.
- Don't get the tags wet. This may inhibit stickability.
- Keep a cloth or towel handy to dry hands before handling the tags. Wet fingers on the adhesive surface of the tag will reduce stickability.

Regulated Control Scheme (RCS)

- If you haven't yet had an RCS audit and would like to have one, contact Pam MacLeman at DINZ 04 471 6114 or pam.macleman@deernz.org
- When an auditor comes to look at your facilities it's your responsibility to show how your systems work. It's not up to the auditor to walk in and tell you what you need.
- You do not need to have deer in your facilities during an RCS audit.
- All velvet being sold into the export food chain must come from RCS-compliant facilities.
- A Velvet Status Declaration signed and filled out correctly must accompany all velvet consignments.
- Falsifying a legal document such as the VSD can lead to possible prosecution and a heavy fine.
- Farmers with small numbers of deer to velvet may wish to explore other options such as leasing stags in for the roar, instead of having to velvet in their own facilities.

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Moffat steps up

by Ali Spencer, Deer Industry News writer

Innes Moffat moved desks in the DINZ head office on 11 October, when he became the industry organisation's new Chief Executive. *Deer Industry News* caught up with him for a chat.

THE BALCLUTHA BORN and raised son of beef and sheep farmers is well known in the sector, having worked for DINZ for the past 14 years, most recently as Programme Manager for the industry's Passion2Profit (P2P) Primary Growth Partnership with the Government. He is "very pleased" to step up from his current position into the top executive role, replacing his predecessor Dan Coup.

"Dan is very well liked and well regarded, with a good brain, and we've enjoyed his leadership. I'm fortunate – and this is what partly attracted me to this role – in that we have a hard-working team of capable professionals at DINZ, with a good strategy that is still in the midst of being implemented," he says. The team's work is well-founded, well-supported and a lot of it is achieving good results for the industry, he adds.

Continuing that industry development, maintaining the good work environment and enhancing DINZ's reputation as a compact and effective organisation all form part of his plans for his new role. This will see him leading the DINZ team to help farmers and marketing companies meet the challenges ahead – around regulation, environmental management, animal welfare and market requirements – and help them produce good quality deer products.

Moffat has enjoyed the challenges and evolving role of DINZ, which saw him working closely alongside then CEO Mark O'Connor on the embryonic Productivity Improvement Project (PIP) which later led to P2P.

"We've always focused on areas where DINZ can make a difference, rather than trying to provide all services to all people. Also, to avoid duplicating services, we work closely with other organisations that are talking to the same farmers," he says.

Career highlights for Moffat have included submitting the successful PGP application for the P2P programme, the development of the Advance Party initiative and seeing how young German chefs embraced the New Zealand industry during the young chef exchange DINZ ran for three years.

Current Venison Marketing Manager Nick Taylor will assume responsibility for the P2P Marketing Premium Venison programme. The DINZ board is already looking to the future and the search is on for a new manager for the P2P Production projects for the final two years of this market-led component of the programme. "We'll be making a few changes to the way we'll deliver that programme. It will be important for whoever comes into that role to develop post-PGP farm services and deliver the transition plan," Moffat explains.

He is looking forward to meeting people in his new capacity and also learning more about the velvet side of the business.

Immediate matters on Moffat's desk at the time of writing included his first meetings with the DINZ board and Audit & Risk Committee; a job description for the new P2P Manager, Farm Production; and figuring out where DINZ fits in the He Waka Eke Noa (the Primary Sector Climate Change Coalition partnership with Government), to which DINZ is a signatory.

"DINZ believes livestock producers should be working towards reducing agricultural greenhouse gas emissions," he says, but the methane reduction targets in the Climate Change Response (Zero Carbon) Amendment Act 2019 are unrealistic.



Innes Moffat is looking forward to getting stuck into his new DINZ role.

The industry organisation will continue to support research into methane reduction technologies for deer and will be working with co-signatories on a cost-effective and efficient means of greenhouse gas accounting at farm level. With everyone working together in the same direction, political will and depending on new technology coming onstream, reducing emissions should be achievable, he says.

Freshwater is another big issue on the desk. DINZ believes the way forward is for farmers have an active and formal written Farm Environment Plan to identify points of contamination, rather than blanket prescriptive rules that might have a negative impact, Moffat says. The DINZ team will continue discussions with the Ministry for the Environment.

In work, the new CEO will be seen around the DINZ board table, DEEResearch, OSPRI Stakeholders Council and the Government Industry Agreement (GIA) Governance Group. He is also looking forward to attending the PGP Programme Steering Group as an attendee rather than as Programme Manager.

Outside work, Moffat's main activity at the moment – besides acting as taxi service for he and wife Megan's two lively sons – is helping the builders with an extension on the family's 1930s weatherboard bungalow. He also enjoys mountain-biking and introducing the boys to scuba-diving, along with other watersports.

Cervidor to China

by Ali Spencer, Deer Industry News writer

Deer co-product processor Alpine Deer NZ LP was one of nearly 100 New Zealand companies exhibiting at the 2019 China International Import Expo Enterprise & Business Exhibition (CIIE) in Shanghai, China last month. The exercise was a great experience, says Alpine Deer's Director Hugh Signal.

CIIE, CHINA'S LARGEST trade expo, took place for the second time in Shanghai from 5–9 November. The exhibition – organised by the Chinese Government to signal the world's second-largest economy is open for business with the rest of the world – sprawled over 270,000 square metres and was attended by about 150,000 importers, exporters, visitors and trade officials from China and around the world.

It provided a unique opportunity to demonstrate New Zealand's expertise in providing safe, traceable, nutritious and sustainable products for Chinese consumers, says the Bank of China's New Zealand Chief Executive David Wang. The bank, which was CIIE's principal financial partner, was proud to support New Zealand exporters delivering high-quality meat, dairy, seafood, fresh produce and other products to Chinese consumers, he explains.

"This is a very important time for exporters to be active in this market with trade between our two countries growing rapidly."

Alpine Deer is New Zealand's longest-standing deer industry participant and the largest processor and exporter of deer co-products. It took part in the New Zealand Health Products stand, facilitated by New Zealand Trade & Enterprise and the China Chamber of Commerce in New Zealand, explains Alpine Deer Director Hugh Signal.

"It was an excellent opportunity to build relationships with new customers," he says.

The company's aim was to generate awareness for its Cervidor range of high-quality New Zealand deer health products, having built up a presence in China over the previous 12 months. His team had worked hard pre-CIIE to promote its attendance and the encapsulated, sliced and whole dried deer products.

"That helped to put us on the radar of relevant attendees and we had lots of interest in our products. But, as with any trade show, it is not about the quantity of enquiry, it's more about the quality of the enquiry," he says. That quality was the highlight of the show for him.

Alpine also took part in a Bank of China supply-demand matchmaking conference.

"The quality of contacts Bank of China provided was outstanding and resulted in significant potential business for us," he says.

"Despite it being such a big show and not industry-specific, we still met some great people. Having shared our story and established new relationships we now have the chance to convert some exciting commercial opportunities."

Most of New Zealand's exports of deer products are still channelled through traditional markets in China due to commercial and regulatory restraints, says Signal. "Despite deer products being a valuable part of Traditional Chinese Medicine, they are yet to evolve into modern and sophisticated formats like they have in the Korean market.

"Aligning with market partners and collaborating on new initiatives is the key to creating more consumer opportunity in the China market."

Signal points to the recent collaboration between the M99 craft beer brewing company, based in the Western China city of Chengdu, and New Zealand brewer Moa Brewing Company. Ideas flowing over a few beers during a visit to Shanghai for Moa resulted in a new "Deer Velvet Beer" that the brewer has created with its Chinese distributors, incorporating Alpine Deer ingredients.

It's clear from CIIE that China is opening up to the rest of the world through multilateralism, he says.

"China consumerism is evolving fast. It can be simple to generate short-term sales, but it is difficult to create long-term value," he warns. "Sales channels are a moving target and difficult to keep up with."

In the year ending 30 September 2018 (the most recent figure available), China was the New Zealand deer industry's top market for the export of tails, sinews and tendons and pizzles worth \$13.6

million – over 10 times more than in 2014.

New Zealand's overall goods exports to China, including those from the deer industry, have quadrupled since the 2008 China-NZ free trade agreement. Wang believes the recent upgrade to that agreement, announced by Prime Minister Jacinda Ardern at the East Asia Summit after meeting Chinese Premier Li Keqiang, will further underpin opportunities in the exciting and fast growing market.



Alpine's Cervidor range was shown to prospective Chinese buyers at CIIE 2019.



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Silver Fern Farms launches first CEMARS-certified carbon footprint

by Ali Spencer, Deer Industry News writer

Silver Fern Farms announced it was the first and only New Zealand meat company to be CEMARS carbon-footprint certified at an offsite event for its global partners in Cologne coinciding with the start of Anuga 2019 – the world's largest food and beverage trade fair.

THE EVENT WAS held this year at upscale venue The New Yorker at the Harbour Club in Cologne and featured Silver Fern Farms venison on the menu.

It was an ideal platform for the company's European, Middle Eastern and Chinese guests to hear from some of Silver Fern Farms' senior executives on the company's vision to be the world's most successful and sustainable grass-fed red meat company, says the venison exporter's Group Marketing Manager Nicola Johnston.

"It was a great opportunity to update them on new strategic initiatives, market trends and our commitment to sustainability," she says, adding it was also a good time to announce Silver Fern Farms' CEMARS (Certified Emissions Measurement and Reduction Scheme) certification.

The CEMARS programme has been developed by Toitu-Envirocare, a division of Landcare Research, is business-tested and ensures consistent and comprehensive carbon reporting, benchmarking and management.

"Customers and consumers want to know their food is being produced responsibly and with care," says Johnston, adding the CEMARS verification programme is backed by ISO Standards.

"It gives global credibility to our claims around how we plan to reduce our carbon emissions. A growing segment of the consumer market pays a premium for food that meets their need for lowcarbon, natural and sustainable food. We hope the steps we are taking will enable us to leverage this opportunity with our grass-



The CEMARS (Certified Emissions Measurement and Reduction Scheme) programme has been developed by Toitu-Envirocare, a division of Landcare Research. fed red meat – including our venison," she says.

Presentations from Silver Fern Farms' chief executive Simon Limmer and chair Rob Hewett updated the 70 guests on key strategic initiatives, alongside a sales outlook for the year ahead and how the company is responding to global trends and market opportunities.

Guests then tasted dishes incorporating Silver Fern Farms' grass-fed red meat, including Cervena® venison.



Shannon Campbell (left) worked with Michelin-star chef Daniel Gottschlich on the event.

These were created by the company's European Select Partnership chef and two-Michelin-star chef and owner of the renowned Cologne Ox & Klee restaurant, Daniel Gottschlich, with DINZ consultant chef Shannon Campbell.

Campbell contributed two Silver Fern Farms venison dishes:

the first with yuzu, passionfruit, sesame soy mayo with pickled gherkin; and the second served with boletus mushroom and pinot jus on cassava.

Campbell says the event was a great affair and the venison was very well received.

"Many guests exhibited surprise at its tenderness and excellent flavour – especially the striploin which we sliced thin and laid out on hot logs of wood pulled from the fire, just a little salt and oil and a delicious slightly smoky flavour," he says.



Venison Tri-Tip joins the sustainablypackaged Silver Fern Farms retail range.

China hot topic at Anuga 2019

by Ali Spencer, Deer Industry News writer

China, and the impact of the current African swine fever (ASF) outbreak on the global meat trade, was the hot topic for New Zealand meat companies attending this year's Anuga – the world's largest food and beverage trade fair held biennially in Germany.

ONE OF 170,000 trade visitors attending the show's 100th anniversary event was Alliance Group's export sales manager for venison, Terry O'Connell, along with general manager marketing Shane Kingston and the manager of the co-operative's UK office, Donna Smith.

For the co-operative, which exports beef, sheepmeat and venison to more than 65 countries, the main benefit of attending Anuga is that the show brings buyers from all over the world – not only from all European markets, but also the Middle East, North Africa, Northern Europe, Asia and North America.

"You can talk to importers, manufacturers, further processors, retailers and others," O'Connell says. "Everyone is there under the same roof and you can get a real sense about what's going on in the markets."



Terry O'Connell (centre, back) with other Alliance staff discussing the latest global meat industry news with key German customers.

The major focus for everyone he met was China and the impact of the ASF outbreak on global meat trading systems.

"This is the biggest single event that's happened in our lifetime as far as protein flows go and it's a big topic of conversation. Everyone was trying to work out what the ramifications would be from the protein gap in China," says O'Connell.



The biennial melting pot of food and drink ideas from all over the world incorporated 10 themed trade shows and took place over five days in Cologne's Koelnmesse exhibition centre from 5–9 October. In its 100th anniversary event, Anuga broke all records. More than 170,000 trade visitors were drawn from 201 countries to view about 7,500 exhibits in the 284,000 square metres of space in Cologne.

While the immediate ASF impact has been on massively increasing demand in China and prices for pork, beef, chicken and lamb, O'Connell sees that ultimately filtering through to New Zealand venison.

It was the fourteenth time he had attended Anuga since his first in 1991.

As in previous years, the company took part in the Prime Meat and Alexander Eyckeler stands, its two long-standing German importers, showing its full range of Pure South and Ashley branded products, including venison.

DINZ consultant chef Shannon Campbell worked on the Prime Meat stand serving up New Zealand venison to the visitors in the form of a Bao bun with a sticky Chinese sauce and black bean mayo, a venison tartare and a steak with blackcurrant and chestnut.

"All were favourites with the guests," Campbell says. A "double whammy" of high temperatures in Europe at the

continued on page 28

SFF CEMARS: continued

Venison tri-tip added to SFF retail range

A new venison tri-tip cut has been added to Silver Fern Farms' retail range, which is also being revamped with new sustainable packaging.

The tri-tip is a perfect new grilling steak option that will provide consumers with a real point of difference when entertaining, says Nicola Johnston.

Featuring a smart-looking recyclable cardboard outer sleeve, the new packaging is an important signal to consumers that the company has a focus on responsible use of resources and lowering its environmental impact, says Johnston.

"Our consumers are also asking how we use plastic. They want to know we use it responsibly, so we have developed our recyclable cardboard sleeve, which will reduce plastic in our supply chain. The new outer cardboard sleeve is sourced from sustainably managed forests and is kerbside recyclable and biodegradable."

All packaging changes have been introduced without compromising product food safety or shelf life and there is no change to the quality cuts inside, Johnston says.

Alliance China: continued



start of last year's game season, then pressure on high prices at the start of the year caused a build-up of stock in the region, which carried over into the New Year. Add that to the collapse of the petfood "bonanza", and these two events led to a market correction, says O'Connell. "The current

chilled game

The Prime Meat stand at this year's Anuga.

season uptake has been positive so we are expecting this to flow through to increased demand from the retailers via the importers for 2020 frozen programmes. Market sentiment remains subdued, however.

"Prices will stabilise eventually, but it's a bit of a waiting game."

There is "still work to be done in traditional markets," he says, but Alliance was letting its buyers know at Anuga that New Zealand now has other options to take pressure off markets. This includes the opportunity to diversify venison to emerging markets in China and wider Asia and to increase the focus in North America too, says O'Connell.

With six of the halls focusing on meat and processed meat products, there was plenty for visitors to look at and plenty of competition, including alternative/plant-based protein products. The latter, "caused more chatter," but the general feeling around the stands is the effect is more sentiment than fact, he says.

"We can't feed the world and see it more as an opportunity to target our fantastic premium grass-fed meat to the discerning customers who want it."

Now back in New Zealand, O'Connell is taking stock of what he learned at Anuga and considering Alliance's 2020 venison programme.

Venison had previously bucked the trend of a surge to China but Alliance is now seeing increased demand for a variety of products, notes O'Connell.



The Pure South Venison range on display at the show.

"We've got to carefully think through our strategy, being mindful of balancing out the geographic and market risk. We're also focused on getting value back into our manufacturing cuts."

At the time of writing, Alliance was just starting to airfreight chilled venison to Europe for the game season, complementing the sea freight chilled product already shipped. O'Connell and colleague Katrina Allan were looking at what might come for the frozen venison programme to kick off in mid-December.

"It's going OK to date. We won't know until the orders come in December which select cuts there might be a run on. It's all about picking the right balance for export in late January–early February."

After that, the summer Cervena programme will start again and there will be an increasing focus on the North American and Northern European markets. For Alliance, that means more work with its importers, instore tastings, chefs' events and PR activity around the globe.

"For China, we're going to be introducing leg and middle cuts they have not traditionally used, so we'll be offering a fuller range in that market, which should create some interest," he says. His team expects there will be variations to usual specifications and they will be working closely on those with their China in-market partner Grand Farm.

"It's all positive news," says O'Connell.

"Venison is such a small part of the protein mix, you've got to shout pretty loud to get heard, but we have passionate and knowledgeable in-market partners. That makes all the difference."

Alliance profit distribution to shareholders

In late November, Alliance announced a pre-tax profit of \$20.7 million and a \$9 million profit distribution to shareholders. For deer, this will be \$5.00 per head and will be made to its approximately 450 deer farmer shareholders after the Alliance AGM on 18 December 2019.

Alliance Chief Executive David Surveyor said the performance shows the 100 percent farmer-owned cooperative remains on track with its transformation strategy. Strong growth in the foodservice sector over the year and a 50 percent investment in the Meateor Pet Food business were highlighted as part of that.

Alliance had also invested in plant modernisations – including the opening of its new Southland venison plant in Invercargill last December – in its people with plant training and supervisory programmes and is also focused on improving its safety performance.

"We greatly appreciate the dedication and commitment from our team and the continued loyalty and support of our farmer shareholders as we continue to deliver against our strategy," said Surveyor.

"There is more to be done and we remain determined to deliver results for our shareholders."



David Surveyor: Transformation strategy on track.

Mountain River man retires

After an impressive and dedicated career building and working for the company, Ian Stewart has retired from his role as General Manager of Mountain River Processors.

IAN HAS BEEN described as down to earth, calm under pressure, solutions-focused, hugely supportive, insightful, honest and not afraid to tell you what he thinks – a "steady hand on the tiller" manager.

In 1966, aged 16 years, Ian started part-time at the Mossburn venison works as a labourer. That was the heyday of wild deer recovery. Ian eventually worked up the chain to become the general manager at Mossburn in 1987.

His involvement with Mountain River goes back to 1994. The Mossburn plant had been taken over by PPCS after the collapse of Venison NZ, but Ian decided not to accept a job with the new owner.

The Doug Hood Group had purchased Northbank Station which had a licensed slaughter plant on it, and they were keen to do something with it. Fortex was nearby at Ashburton. The Doug Hood Group had started building the plant before Fortex went into receivership. Fortex was at least 40 percent of the venison industry and farmers were finding it hard to get space – a huge driver for the Doug Hood Group to do something.

Mt Hutt Station was part of the Doug Hood Group, who themselves ran deer. It was subsequently sold to Keith and Denise Hood who continue to supply deer to Mountain River.

Outside the factory, Ian has been involved in many areas of development for Mountain River Venison, one of these being China. Ian has always loved visiting the country and is fascinated by the culture. Because of this, Mountain River was the first venison plant to have a China listing.

Ian, along with John Sadler, and sometimes Graham Brown, has visited customers in Europe, China, and the United States.

"Because the bigger venison players slaughtered a lot more deer than us they needed to sell in the commodity markets. John Sadler quickly convinced us that our way forward was by doing more specialty cuts, which we are still doing today," Ian says. Having personal friendships is invaluable, Ian says, "We all have grown together." He expects that Northbank Station will soon be a well-developed farm, and something the whole group will be extremely proud of.

"I am sure no other venison company in New Zealand has the complete pasture-to-plate scenario that our group has", Ian says.

Kerry Whiting will take over as General Manager at Mountain River Processors.

Ian and his wife Ngaire have purchased a home in Rolleston, and will spend next winter on the Gold Coast. They also intend to explore the North Island over the next few years. Ian will continue in his role as director of the parent company, Doug Hood Ltd.

This article is an edited version of a tribute to Ian Stewart by Mountain River staff. See bit.ly/34ILKlz for the full version.



Ian Stewart (left) with Mary Hood (chair, Doug Hood Limited) and Kerry Whiting, who has taken over as General Manager of Mountain River Processors.

Venison market update

THE AVERAGE VENISON

market schedule price for November was \$9.07. This was down 18.4% year-on-year from 2018 and down 2.7% on the November average for the past five years. Since the middle of 2019 the venison schedule has returned to the more traditional seasonal pattern that had prevailed until 2017.

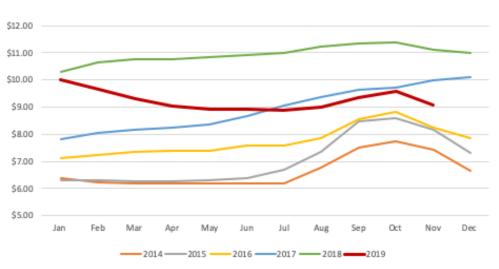


Figure 1: National published schedule: 2014-2019 (monthly averages).

Good water allocation outcome

Otago's Mandy Bell has drawn our attention to a decision by the Environment Court that may set a precedent when regional councils weigh competing interests when setting minimum river flows.

AT ISSUE WERE proposed limits for the Lindis River set by Otago Regional Council (ORC) of a minimum flow of 900 litres per second (l/s) and a primary allocation of 1200 l/s. Under the council's existing regional water plan there are no low-flow limits on water takes. As a result of abstraction for irrigation, the river runs dry for protracted periods during summer in places.

In a ruling, Judge Jon Jackson set a minimum flow for the river of 550 l/s and a primary allocation of 1640 l/s. These are the limits proposed by the Lindis Catchment Group (LCG), which represents 33 Lindis and Ardgour Valley water users. The sum of all water take permits recently granted by the ORC is 1640 l/s.

A higher minimum flow of 900 l/s, advocated for by Fish & Game, other fishing interests and local residents, was rejected. Here's why the judge ruled this way (this is our lay

interpretation of the ruling, not a legal opinion):

- Both low-flow options (550 l/s and 900 l/s) are much better for the health of the river than the current situation.
- 900 l/s is more likely to benefit trout than the native aquatic species they prey upon, thereby reducing the intrinsic ecological value of the waterway. The RMA concentrates on indigenous biodiversity and ecosystems, not introduced game fish.
- Nine hundred l/s makes the supply of water less reliable for irrigation (because it is available to be taken less often). "It is the reliability of the water that drives investment in highly efficient infrastructure, not the total primary allocation. This is due to two factors – the relatively high cost of pivot irrigators and the watering regime undertaken which requires a little water but often," says the judgement.

- Nine hundred l/s is likely to emit more N (and P) than the 550 l/s option because less spray-irrigation will be installed (or if installed, used) and more border dyke irrigation retained, resulting in likely higher pollution rates.
- At a previous mediation the LCG had agreed, subject to ORC adoption of 550 l/s, to the closure of three major water races; the replacement of other major races with bores with takes subject to consents; and allowing pulse flows of 1,000 l/s if the flow of the river reduced to below 750 l/s for more than 14 days in a row. The closure of the water races will greatly increase the efficiency of water use.
- The cost to anglers of a 550/1640 regime, compared with higher flow levels, will be minimal.

DINZ environmental stewardship manager Lindsay Fung says the take-home messages for farmers from the ruling are that water takes are not just about quantity.

"It's also about the ecological impact of different takes, how efficiently irrigators use the water, where the water takes are located and how much is from groundwater," he says.

Mandy Bell expects rural communities will watch with interest the discussions that will arise from this decision.

"All parties involved in water management, including Fish & Game, should be looking at catchment health in its entirety. This is not just about water takes and introduced fish numbers and habitat, but also water quality, native fish numbers and habitat, recreation and mahinga kai. People, communities, and businesses – along with farmers – all have an interest, as well as parts to play, in maintaining and improving the health of our waterways."

The decision may be subject to appeal.

Velvet removal prosecution

A DEER FARMER has been fined \$13,000 for ill-treating animals, according to a report on *Stuff*. The case from 2017 involved eight yearling stags that had been incorrectly velvetted before being transported for slaughter. Rubber rings were not applied and two stags had velvet cut flush with their skulls.

As a result of this case, the farmer has had his NVSB velvet removal certification cancelled. In light of this action, the Ministry for Primary Industries (MPI) elected not to seek the farmer's disqualification from owning or controlling deer. The District Court Judge, in sentencing the farmer, described MPI's decision as "merciful".

Five years ago the same person was fined for animal welfare offences relating to a failure to feed hinds.

DINZ Chief Executive Innes Moffat said this case underlines the importance of maintaining the highest animal welfare standards in the deer industry.

"The failure to properly protect the welfare of animals

undermines the industry's reputation and cannot be tolerated. It is entirely appropriate that the authorities take decisive action to prosecute offenders in cases such as these," he said.

The NZDFA, alongside DINZ, is deeply concerned about this serious breach of a strongly developed and critical protocol and commitment to the welfare of stags and velvetting removal under a formal legal welfare code. The NZDFA reinforces the absolute that meeting – in fact exceeding – the formal deer welfare standards is a guiding principle of modern deer farming management, care and belief, and is deeply concerned about the impact this case has for the industry. "Every deer farmer has the responsibility to uphold these standards that are central to the National Velvetting Standards Body (NVSB) to ensure that we can continue to velvet deer within the strict rules and practice demands," says NZDFA Chair John Somerville. "One selfish, reckless act, and adverse publicity around it, can undermine that right and compromise our whole industry's future."

Obituary: Charlie Lee Pioneering father of NZ velvet industry

At the time when our founding leaders (including Sir Tim Wallis and Sir Peter Elworthy) were establishing the deer industry, Charlie Lee was ensuring we had an outlet for our precious velvet product. It was his pioneering spirit that established the New Zealand velvet processing industry.

THE NEW ZEALAND velvet industry now has a farm-gate value of around \$100m and a huge credit goes to Charlie Lee for starting all this off.

Aside from the financial benefits Charlie bought to the industry, was the cultural and societal richness the Lee family was able to instil among a European-dominated farming industry. New Zealand has had a close relationship with Korea since the Korean War days of the early 1950s and the Lees were able to build on that connection within our own industry through the introduction to Korean velvet markets (particularly for those of us lucky enough to have travelled there).

Charlie leaves a legacy in the New Zealand velvet industry that he could be proud of. His son Michael carried on with his high-quality processing system and engaged with the health food conglomerates that have taken the industry to another level. And Charlie's grandchildren, Mathew and Susan have also entered the



Charlie Lee (centre) with members of his family. He has been recognised by both the New Zealand and Korean Governments and received numerous awards and decorations, including an Order of Merit and three Korean presidential citations. Source: Te Ara

industry as a third generation of Lees who will ensure Charlie's name lives on. What a fantastic family legacy that continues to benefit our industry.

This is a sad time for the New Zealand velvet industry, but it is also time to reflect and give thanks to a man who had the wisdom and courage to create a new industry. We are indebted to Charlie's vision and pioneering spirit.

On behalf of the New Zealand deer industry, we extend our sincerest sympathies to Theresa, Jason, Monica, Jin, Michael, Julie, Mathew and Susan.

– The DINZ team

Condolences to Teresa, Jin and the entire Lee family on Charlie's passing. He was one of the great characters of the New Zealand deer velvet and co-products scene for many years. Charlie generously shared his deep industry knowledge and was passionately committed to the New Zealand deer industry. He was instrumental in bringing the South Korean and New Zealand deer industries closer together and stood tall, willingly playing his part to support the industry, for example as Chairman of the New Zealand Deer Velvet Processors' Association for several years. Mark O'Connor – former DINZ CE

Charlie was one of the originals in the velvet business. He was a strong supporter of the industry and never shied away from the challenges. He was always very clear in his views and happy to provide input for anything the industry was considering. In his own business he was always at the leading edge of technology and invested heavily in doing things differently. If it was not for the effort and input of Charlie and those early pioneers, we would not have the industry we have today. Your effort and support will not be forgotten.

Collier Isaacs – former Game Industry Board CE

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Environment front and centre at Branch Chairs' meeting

by Phil Stewart, Deer Industry News Editor

Presentations and discussions on winter grazing, freshwater standards and options for reducing greenhouse gas emissions were highlights of the NZDFA's annual two-day gathering for Branch Chairs held in Wellington on 8–9 October.

Branch roundup

Many branch chairs, including **Bruce Allan** (Southland) were concerned about changing environmental compliance requirements (especially for wintering). He said Southlanders were making good progress on their Farm Environment Plans, however.

Rex Cowley (Taranaki) said uncertainty about the definition of a stream and what needs fencing off were concerns in their region. **Claire Parkes** (Nelson) said the branch was starting to get active again. Members were also worried about upcoming environmental restrictions although the regional council had yet to spell these out. Nitrate levels in water had been recently identified as an issue.

Ian Bristow (Kaipara) said the branch had recently had a successful 40th anniversary celebration. They are currently trying to get a local Advance Party established. **Richard Currie** (Otago) said farmer wellbeing was another issue in addition to the widely shared worries about environmental regulation. He said the branch was widely spread and activity wasn't high, although the Rising Stars competition in March had been a highlight.

Leith Chick (Waipa) said members wondered why the schedule seemed to be lagging despite the low dollar. The recent Plan Change 1 in the area was not good for farmers, he added. Chick had harsh words for OSPRI, noting that the call centre was "useless". Tahi Doonan (Marlborough) said the industry in the region was doing well, but members were fed up with negative public perceptions of farming. He and others want more done to promote positive stories about deer farming. Matt von Dadelszen (Hawke's Bay) said Advance Parties continue to be a positive influence in the region. There were local concerns about the impact of increased velvet production, however.

Tom Sanson (Poverty Bay) said despite a merger with the Wairoa Branch, declining membership was still an ongoing challenge. The new Deer Industry Environmental Group (DIEG) in the area was a positive, however. **Liz Love** (Bay of Plenty) had also commented on the lack of people to take over key roles in the branch. **Russell Rudd** (Canterbury) agreed that the DIEGs were a great development but wants more positive stories promoted to help close the rural/urban divide.

Tony Gray (Central Regions) said the Horizons regional council Plan Change 2 in their district was not too restrictive unless you were in horticulture or had an intensive operation.

Graham Peck (South Canterbury/North Otago) said the interaction between Advance Parties and wider branch membership was good. His branch wants better direction from the Government on issues like freshwater and urged DINZ to keep providing branches with support on environmental matters.

Mark McCoard (Taihape) said members had enjoyed a good winter but noted the venison schedule had softened somewhat. Stress levels for farmers were also concerning.

Summing up, Executive Committee Chair **John Somerville** said the industry response to the *Action for healthy waterways* discussion paper and declining membership were two of the biggest issues at present. He also repeated the call for greater involvement of women in branch activities and leadership.



Attendees at the Branch Chairs' meeting in Wellington.



Current NZDFA Executive Committee. from left: Justin Stevens, Mark McCoard, John Somerville (Chair) and Grant Charteris.

Velvet supply building

The velvet industry has been riding a wave of optimism and product, but that surge may be catching up with us, said **Rhys Griffiths**, DINZ Market Manager Asia. Following a record 800 tonnes produced last season, Griffiths said DINZ was conservatively budgeting for 850 tonnes this year.

He said exporters were now having to shift twice as much product as they were just 8–10 years ago, as velvet looks to consolidate its position as a \$100m farmgate value industry. "Stay close to your current buyer," he advised.

Trade battle bottle

Leith Chick was the quickwitted winner of a bottle of Moa's Black Stag Lager in this year's deer-themed quickfire quiz. He correctly answered the question: Who is Korea currently having a trade war with? The correct answer was, of course Japan. Rhys Griffiths said all eyes were on the US/China trade war, but the struggle between Korea and Japan - and a slowdown in Korean economic growth - was just as problematic for exporters like New Zealand.



Griffiths said the healthy food sector was still showing growth but was also maturing, which meant it may not be able to absorb too much additional production from New Zealand.

On market access, he said we were poised to launch a healthy food strategy in Taiwan, but that was being hindered by protectionist regulation to restrict the way these products can be sold. He noted we should avoid over-reliance an any single market in the healthy food segment.

The stronger-than-expected velvet prices last season, combined with instability in international trade, was causing some anxiety among importers and food companies this season.

On the plus side, the Regulated Control Scheme and direct government oversight of standards continued to pay dividends for New Zealand velvet producers.

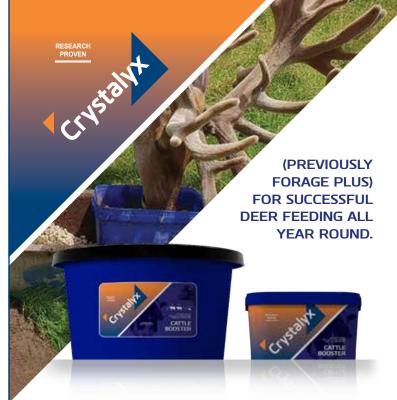
The NZ–Korea Free Trade Agreement was also paying off. The tariff on processed velvet from New Zealand was down



DINZ Market Manager, Asia Rhys Griffiths: Some anxiety in markets apparent this year.

to 12 percent (from January 2020) compared with 20 percent for other exporters. That advantage is set to keep increasing each year until 2029, when New Zealand will have a 20 percent advantage over other exporters to Korea.

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Branch chairs: continued

New Zealand provenance was an ongoing advantage in Asian markets. Our image was built on the three pillars of discovery, vitality and integrity.

DINZ Board member **Tony Cochrane**, National Velvet Manager with PGG Wrightson, said the company's volumes last season were up 8 percent on the previous season. Average returns to producers were just over \$137/kg net (excluding hard velvet and antler), compared with \$130 the previous year.

Those who took up the offer of a minimum price contract had been rewarded with a \$5 premium, he said. All stock had been sold by March. PGG Wrightson sold about two-thirds of its velvet directly to Korea and one-third to China.

Cochrane said KGC has a big presence in Seoul and small jars of their premium Cheon Nok Jung product, incorporating velvet extract, sold for hundreds of US dollars. Another important customer in Korea was Dr Lee, the "deer doctor", who had his own brand and TV show, selling through the Lotte home shopping network. "He only uses 10–15 tonnes a year, but he sells it fast and well," Cochrane said.

Lee was committed to New Zealand velvet. He helped sponsor a branch velvet competition and features well-known New Zealand velvet producers in his promotional videos.

Like Griffiths, Cochrane said the current trade wars involving China are a worry, but he's optimistic about the prospects for the

healthy food market in that country.

Cochrane said other ongoing risks to the industry included welfare, biosecurity, tightening credit from banks, increasing supply and fragmented selling.



Prices for the new season had started back on

PGG Wrightson National Velvet Manager Tony Cochrane: Be mindful of China market requirements for style of stick.

last year, but it was too soon to guess where they would eventually land. At press time they were down about 5 percent.

Looking at the increasing size of velvet sticks, Cochrane said the Korean market wasn't too prescriptive but in China it was important to stay away from sticks that were too flat or bulby.

While quality had "gone through the roof" in recent years, Cochrane said there was still room for improvement, especially avoiding contamination with ice, blood or soil.

Venison settling back off highs

DINZ's **Innes Moffat** presented the venison update on behalf of Venison Marketing Manager Nick Taylor. Moffat said chefs Graham Brown and Shannon Campbell continued to do excellent work in Europe, reminding chefs and food writers about the qualities of New Zealand farm-raised venison and why it's superior to European game. "It's about personal connections and working closely with the European importers," he said.

The petfood effect

The "bitcoin-like" frenzy around venison meal and co-products as a petfood ingredient was gone. It was still being used as an ingredient, but prices for "the grisly bits" of the carcass had settled back to more realistic levels. In previous years these had sold for about \$2,000-\$2,500 a tonne, but during the height of the demand they reached nearly \$7,000 a tonne. This flowed into the schedule, but it was an unsustainable level. Duncan NZ's Robb Kidd said there is still strong interest in venison as an ingredient in petfood, but manufacturers had wound back the amount used, so stocks would take longer to clear. He expected the "blip" to take another 12–18 months. "The good news is that consumers still want it."

Non-European markets

US sales in the foodservice sector were still growing steadily. In the meantime, interesting niches are emerging in China and the Middle East, where individual companies are exploring new markets as a way to keep reducing dependence on the seasonal European market. Mountain River Venison was doing good work in China and other companies were now looking at this destination.

Europe

Moffat said this European autumn looked to be cooler, which was good news for venison, but "we need to reduce our reliance on Europe being cool in autumn. Last year it was still 29°C in October."

Frozen prices in Europe have settled back down after peaking in 2018 with product being carried through. For example, the value of frozen leg cuts was down to $\notin 9.20$ – off the recent peaks, but still similar to 2016 levels. Silver Fern Farms' Malcolm Gourlie commented that the venison schedule had returned to a traditional spring pattern. He expected it to peak at about \$10 before settling back by \$1-\$1.50. (At the time of writing it appears the peak was a little short of \$10 although contracts at this level were offered. See p29 for latest schedule graph.)

P2P summer Cervena® programme

While there has been a big investment and there is still plenty of enthusiasm about the programme to sell Cervena in Belgium and the Netherlands in the European summer, there have been logistical challenges. The New Zealand companies had worked well together on this programme, but aligning the needs of importers had been more challenging and while volume had not met original expectations, the partners remained committed to the ideal of increasing out-of-season consumption.

Other new markets had exceeded expectations, however. For example, significant volumes of venison were now being exported to China.

Moffat said the original target of 1,200 tonnes into new markets by 2020 under the P2P programme wouldn't be met, but this was discussed with the government funding partner, who had accepted a revised, smaller target.

"All our projects are still providing useful information from the markets and our companies are still sitting around the table talking about where they can work together," he said.

One such project was a venison snack bar, which is being

developed by the five companies sitting at the marketing working group table. Moffat said the prototype product is shelf stable, healthy and "tastes okay".

"Raised without antibiotics"

Cervena has long been marketed as being raised without antibiotics in feed, but to claim "antibiotic free" means no antibiotics can ever be used, with a system to prove it.

New Zealand deer farmers are now being consulted on a proposal to strengthen Cervena standards to include verification that animals have also not been treated with antibiotics, either individually or as a mob. This would require treated animals to be identified with a tag so they could be excluded from the Cervena programme.

While most at the meeting saw the standard as a good thing if that was what customers wanted, there were also warnings that this should not be at the expense of animal welfare. Kris Orange noted that antibiotics should never be used prophylactically, but that consumers needed to understand that they are used sparingly and according to withholding periods, when animal health and welfare is at stake. Grant Charteris said that if a mob is hit by something like Yersinia or leptospirosis, farmers must do the right thing and treat the animals.

Moffat said the proposed standard is meant as a carrot, not a stick. "It would be a perverse outcome if you were penalised for doing the right thing." He said work was being done on verification to support the proposed standard, involving ASD declarations, NAIT tags and individual tags for treated animals. It was up to companies to work out how their suppliers should be paid for verified antibiotic-free stock.

"Ideally it should be another box on your Farm Assurance Programme."

Silver Fern Farms has started selling antibiotic-free lamb into the United States and now sold up to 600,000 under that label. Regional Livestock Manager Malcolm Gourlie said customers now wanted all stock supplied as antibiotic free, but without a premium. He noted that existing premiums for antibiotic-free stock are quite modest.

Moffat said consultation on the proposed standard would continue.

Passion2Profit

Innes Moffat reported that farmers were achieving the P2P target of lifting average carcass weights from 55 to 59kg, and weaning percentages from 75 to 80 percent. While the latter were harder to verify, carcass data was robust and reliable.

Moffat said retention of animals past spring may have partly explained the lift in weights, but data was showing that age-forage, average weights were still lifting. That could be partly put down to improved animal nutrition and genetics.

There are now 28 active Advance Parties (APs) with two more in the wings, he said. The oldest APs needed some evolution and some might split up if members' interests diverged.

Workshops for rural professionals (fertiliser reps, bankers, livestock agents, vet students and so on) had attracted 170 attendees over the past 12 months - an excellent response (for a list of 2019 attendees see: deernz.org/rural-professional-2019).

The development of Deer Industry Environment Groups has also been pleasing. Moffat said the most important thing is that a Farm Environment Plan (FEP) is completed and put into practice. There is also good crossover with APs. One AP has three members with FEPs in place and the group is looking at examples of good

continued on page 36



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Branch chairs: continued

environmental practices on farm visits.

P2P initiatives to identify and nurture talent and leadership with a focus on the deer industry are going well. The annual Big Deer Tour now has 22 graduates including current Young Farmer of the Year, James Robertson. The recent Innovation Workshop (reported in the October/November *Deer Industry News*) was also a success. Ben Anderson (Hawke's Bay) said the networking opportunities and use of professional facilitators had been a big plus.



P2P Regional Workshops such as this one held in Hawke's Bay in July, are an ideal environment for deer farmers to brainstorm solutions for productivity issues.

Communications to encourage more widespread use of breeding values for commercial herds are being stepped up, Moffat reported. The latest of these is a series of podcasts (deerindustrynz.podbean.com/) and videos (deernz.org/media/ video-gallery/keen-genes-videos) featuring a rural broadcaster talking to the industry's genetics experts, a commercial farmer and venison company.

Regional workshops are designed to help APs spread what they've learnt to their wider farming community. An initial target of one workshop per AP per year has been modified to 10 a year over the whole country. Moffat stressed that the workshops are meant to complement, not replace, local DFA activities. He challenged DFA branches to engage with their local AP chairs and facilitators and tell them what they would like to learn about.

Workshops focused around a single topic seemed to work well – for example, a Hawke's Bay workshop featuring local scanning results and a discussion about cutting fawn losses, and a feed workshop in Otago.

Parasite management workshops for vets, rural merchants and farmers are hoped to be started from about February next year. All going well, this will coincide with the release of the new triple oral drench being developed for deer. However it was noted that this drench will be just one of a range of tools available for sustainable parasite management, and recommendations will vary for individual farms.

Key issues – Federated Farmers' perspective

Federated Farmers' CEO, **Terry Copeland**, who has a background in the wine industry, said the organisation's 31 policy analysts were flat out on 35 policy areas. Five or six of these, such as the Government's Essential Freshwater initiative, take up about 60 percent of their time.

He said climate change and the Zero Carbon Bill had been the top priority, although issues about water quality were now also demanding much of their attention. In a comment that would probably surprise climate scientists, Copland claimed the science around climate change was "a minefield" and that "there are different schools of thought – nothing is proven".

On water, Copland was keen to deflect some of the blame from agriculture, noting that while quality across farmland is about 10 times worse than on conservation land, in urban waterways it was 24 times as bad. He also questioned why rivers such as the

Manawatu are classed as rural for the purposes of measuring water quality when they pass through significant urban areas. He said

the lack of any farming interests in the four advisory groups on the Essential Freshwater



Federated Farmers' CEO Terry Copeland said the organisation is being kept busy responding on a number of policy issues affecting agriculture.

programme was regrettable. Consultation including rural interests had only just begun and was "a sham".

He also questioned why the Resource Management Act is not being reviewed before the Essential Freshwater programme. Another gripe was that big policies such as the Biodiversity National Policy Statement are not coordinated with other related government policy initiatives.

Biosecurity was another area where Federated Farmers was not happy, both in terms of prevention ("there isn't nearly enough screening") and response, namely to *Mycoplasma bovis*. "The left hand [at MPI] still doesn't know what the right hand is doing." For kauri dieback, "the Government doesn't know what to do".

He said Federated Farmers was closely involved in consultation on the review of the Biosecurity Act.

While technology had a big part to play in farming, Copeland said farmers shouldn't have to spend too much time entering data unnecessarily.

On the positive side, he said primary industries now account for 80 percent of merchandise exports, with growth outstripping other sectors by a wide margin.

With exports, Federated Farmers was pleased to see a focus on value rather than volume. He noted our wine exports to the United States are worth the same as Australia's but account for only one-third of the volume, for example. The recent explosion in international travel was good for New Zealand because it meant consumers developing more cosmopolitan tastes.

Copeland said there was no total social or economic impact assessment of the various government initiatives. There were some contradictions in these. For example, he complained that while farmers are encouraged to plant native species in riparian strips, they risk these then being declared significant natural areas. "Creating wetlands for water quality can make sense, but these can also contribute to climate change," he added.

The sale of productive farmland to forestry companies was a major concern.

While they agreed with the aspirations behind some of the new government initiatives, Copland said the organisation was worried that the policy and legislation to achieve these was poor.

On the political front, he said too many policies were Auckland focused, while the rural population was in decline. "It's fortunate that we have a lot of rural seats! It would be really helpful if the Government was not so overtly negative towards our sector."

Copeland did acknowledge, however, that the Prime Minister does listen to rural concerns, and he was hopeful that there might be some movement on the methane targets that had been proposed, for example.

He concluded by urging farming groups to speak with a more unified voice, presenting agriculture and food production in a more positive light.

Action for healthy waterways explained

At the time of this meeting there was still three weeks available for farmers to make submissions on the Government's discussion document on Essential Freshwater actions and they were strongly urged to do so, adding weight to the submission being made by DINZ on behalf of the industry.

Two senior officials from the Ministry for the Environment (MFE) were on hand to give an overview on the proposals and answer questions: Water Task Force Manager **Annabelle Ellis** and Senior Analyst **Irene Parminter**.

Ellis said it was important to promote the good environmental work already being done in the rural sector.

The Government wanted to see a material improvement in water quality within five years and healthier waterways within a generation, she said. Four groups advised MfE in the development of the Essential Freshwater document: Kāhui Wai Māori, a



Irene Parminter (left) and Annabelle Ellis from MfE talked to branch chairs about the Essential Freshwater discussion document.

freshwater leaders group including farmers, a science and technical advisory group and a group representing regional councils.

A guiding principle was Te Mana o Te Wai, which puts the health of the water first, using a holistic and integrated approach. This was to be delivered through updated National Environmental Standards, which will fall within the purview of farmers as well as those responsible for drinking water, wastewater and so on. The standards are driven by a new National Policy Statement – Freshwater Management, which directs local government. There will also be reforms to the Resource Management Act and other changes to ensure there is a proper regulatory framework. More specifically there will also be complex regulations designed to exclude stock from waterways.



New standards will affect both rural and urban waterways.

Ellis explained the new standards will apply in both urban and rural contexts. For farmers it means things like creating a Farm Environment Plan to identify and manage risks, limits on intensification, care of streams and wetlands, exclusion of stock from waterways, rules around winter grazing and reductions in nitrogen losses.

Support for changed practices would be made available through extension services and investment in better decision support tools such as Overseer.

In principle DINZ supports the intent of the National Policy Statement on Freshwater Management, the National Environmental Standards and stock exclusion regulations, but shares farmer concerns about the practicality or otherwise of the proposed constraints. The 5-metre setback width for riparian fencing is an obvious example.

Following the presentation by Ellis and Parminter there was a constructive discussion with branch chairs. Concerns were aired about the impracticality of some restrictions and issues like the cost of replacing a stock water source.

The presenters urged deer farmers to air concerns like these in their submissions, which were due by 31 October. DINZ Environmental Stewardship Manager Lindsay Fung supported this call, noting that panels considering submissions couldn't ignore sheer weight of numbers. He said DINZ will be seeking to engage with government officials and host them on farm visits to show what farmers are already doing to help improve water quality.

Regional council activity

Lindsay Fung updated regional plan activity around the councils. Several significant regions, including Southland, Canterbury and Waikato, require Farm Environment Plans and about half of the regions are putting stock exclusion rules into place.

Fung said the main regions of concern for farmers were Waikato and Bay of Plenty. Others such as Taranaki were posing few challenges. It remained to be seen what restrictions would be imposed in Otago and Southland. (Otago was awaiting outcomes of government policy changes.) In cases where councils were not going through a plan change process, there was potential for the deer industry to get alongside them and build a constructive relationship, he said.

He said it is a busy time for the industry on the environmental front. DINZ was making a submission on the Zero Carbon legislation and Essential Freshwater document, is engaging with the winter grazing taskforce and looking ahead to government policy changes on biodiversity on private land.

Scaling up Environment Group success

Phil McKenzie, P2P Environment Project Manager, reported there are now 13 Deer Industry Environment Groups (DIEGs) involving 85 farms. A couple of Advance Parties were also now focusing on their Farm Environment Plans (FEPs). About 20–30 percent of DIEG members already have an FEP in place, and are keen to make them active.

McKenzie said individuals in the groups are prepared to take risks and show other members challenging areas on their properties that need work. "We often get great ideas coming out of the power of group trust," he said.

Scaling the good work in the DIEGs up to the whole industry was the next challenge and McKenzie said the DFA could play a crucial role there as a first point of contact to refer people to the resources available through DINZ.

McKenzie said a library of example FEPs from different regions was being built and would be available online. Lindsay Fung said a second edition of the Environmental Management Code of Practice was in the works and an accompanying handbook would have sample templates for FEPs for different farm types, with plenty of photos of good practice.

Other primary industries were now starting to notice the good work and leadership being shown by the deer industry, McKenzie concluded.

Pāmu looking beyond traditional enterprises

Angus Irvine, Business Manager Genetics with Pāmu (Landcorp Farming), updated branch chairs on the company's activities and strategies.

He said the Pāmu brand was being developed for the company's premium products, working with partners such as Duncan NZ Venison. There were currently 124 farms totalling 336,342 hectares (154,386 effective). Among Pāmu's stock classes there are 89,000 deer including 45,000 breeding hinds (very approximately 10 percent of the total stock units).

Irvine said the intention was to stick with deer. He said the company managed diverse land types and was fostering innovation with a goal of reducing its environmental footprint. As part of this they were open to investigating other types of management, such as regenerative farming or organics.

Health and safety and developing the capabilities of employees are big priorities, he said.

In addition to its core business producing meat, milk and fibre, Pāmu is developing medium-term advanced strategies to attract premiums through modifying and certifying its farm practices. Beyond that they are building a transformative strategy to develop highvalue, highmargin products such as sheep or deer milk that have a small environmental impact. They are also exploring



Angus Irvine's responsibilities at Pāmu include the company's breeding programme.

ventures into horticultural products such as avocados or hemp.

Irvine said the company is taking a hard look at the performance of its core business, benchmarked against the rest of the primary sector and they will be focusing on a couple of areas such as feed conversion and reproductive efficiency where they could improve. Staffing efficiencies in head office will also be scrutinised as part of the performance improvement efforts.



Fencing off critical source areas and sensitive land is an important part of Pāmu's environmental programme.

Pāmu is trialling a range of new technologies to help achieve these goals, Irvine said. These include modified systems to help mitigate emissions and improve water quality and biodiversity. They are also looking at areas like nutrient efficiency (fertigation) and the newly developed 'Shepherd' system for fenceless paddocks.

On the deer genetics front, he said weight at 12 months and maternal traits with moderate mature weight for reds and wapiti focusing on terminal traits were priorities.

The company shares the deer industry's environmental challenges, Irvine said. Winter cropping was part of that but it was unlikely to ever be replaced with all-grass wintering. He said winter crops are needed for a sustainably profitable farm business, especially in the South, but agrees that management practices need to be improved. This included measures such as avoiding critical source areas (CSAs), break feeding down the slope and giving stock access to shade and shelter. He added that "one size does not fit all", noting that a five-metre setback for winter crop might not be enough in some places, while for permanent pasture it could be adequate.

Pāmu has about 10,000 ha in plantation forestry of which 90 percent is *Pinus radiata*. A further are of about 9,000 ha is in QEII covenants, most of which is native scrub and forest.

They are planning to plant a further 3,500 ha of plantation forest over 2020 and 2021 to reach a target of 6,000 ha over four years. The current plantation estate will be replanted as it is harvested.

Forestry planting has always been strategic, focusing on erosion-prone land across the country, that has both environmental and economic benefits. The focus is on parts of the farm that are returning very little to the enterprise and where farming is not sustainable in the long term.

The company also has many hectares of riparian planting in a variety of species and is also planning some plantation manuka for honey production on the East Coast.

Irvine's main role spans 10 breeding farms and he is excited by the potential of genetic improvement for sheep, cattle and deer. For example, their work on breeding for reduced methane emissions from sheep is showing real promise along with utilising the Innervision CT scanner at Invermay to optimise meat yield across deer and sheep breeds. Focus Genetics, a Pāmu subsidiary, designs and oversees the maternal and terminal sheep, beef and deer breeding programmes on a number of Pāmu properties throughout the country to deliver high-quality genetics to Pāmu commercial farms and also sells to the open market.

Board Q+A

Several members of the DINZ Board fielded questions from branch chairs.

DINZ Chair **Ian Walker** said the industry had a good direct connection to the Government through membership of the farm leaders' group chaired by Mike Petersen. They had met with the Prime Minister and Ministers for the Environment, Climate Change and Employment and had a "frank" discussion. Walker said few would dispute the environmental objectives. The sticking points were the science and practicalities behind proposed changes.

Mark Harris said the farming industry had probably been under-regulated in the past, but that the pendulum was swinging too far the other way. He said it was up to farmers to show the Government how they could help achieve its aims.

William Oliver said a priority for the next 5–10 years for DINZ was to get environmental stewardship sorted out, to strengthen appellation and branding, and to ensure the industry is resilient.

Kris Orange noted that work on velvet traceability will help strengthen New Zealand's competitive advantage, but wanted to see more diversification in venison markets.

Tony Cochrane said it was hard to know whether New Zealand

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was producing the right amount of velvet, but that it was important to keep working to grow the market.

Primary ITO – vocational training structure to change

Rachael Handy, Sector Manager Sheep, Beef and Deer for the Primary ITO said that under the Government's review of vocational education (RoVE), the 16 polytechnics and 11 separate Industry Training Organisations were to disband in their current form.

Individual polytechnics will form one national body, The New Zealand Institute of Skills and Technology (NZIST). The individual Industry Training Organisations will disband into either Workforce Development Councils (WDCs), part of the NZIST, or alternate bodies over the next 2–3 years.

The WDCs get underway from April 2020 and their job will include writing and setting standards, assessing workforce needs and endorsing programmes.

"This structure will allow much more direct input from industry," she said. Beneath the WDCs will be Regional Skills Leadership groups that will address the regions' areas of skills shortages and their needs for training. They will work with both the WDCs and NZIST on addressing their concerns and requirements.

Handy said all primary industries are suffering skills shortages at present, and the Government is keen to get more people into practical on-the-job training.

At present deer industry training is delivered through generic Level 2 qualifications in areas such as stock/chemical handling, fencing and so on, the Level 3 Deer Husbandry course, a Level 3 Feeding programme for sheep, beef and deer, a Level 5 Primary Industry Production Management qualification and a Diploma in Agribusiness Management.

Handy also explained how activities and opportunities within the deer industry, such as attendance at a Next Generation programme or membership of an Advance Party, can be integrated into a person's career path and professional development.

She said students on deer-related courses had attended farm field days such as the one hosted recently by Glen Whyte and Primary ITO Training Advisers had taken part in Rural Professionals workshops throughout the country.

The next Level 3 Deer Husbandry course was being held at Taupo in late November.

Red meat update

Sam McIvor, CEO of Beef + Lamb NZ (B+LNZ) was bullish on prospects for red meat, saying New Zealand's grass-fed, hormoneand antibiotic-free product is in strong demand around the world. Although red meat consumption is dropping in some countries, the United States and developing countries are going against that trend, he said.

The uncertainty around Brexit and the strength of the China and US markets were combining to draw attention away from Europe. McIvor said the proposed splitting of New Zealand's beef and sheepmeat quotas into Europe with Brexit was concerning because it could remove flexibility and be unfair.

He said New Zealand was unique in how much of its red meat production was exported and thus exposed to trade risk. Echoing the deer industry's approach, he said the beef and sheepmeat industries are always looking for new markets and added value. He warned that much value from a free trade agreement can be eroded if non-tariff barriers are allowed to creep in. On the environment front, he said B+LNZ wanted the New Zealand red meat industry



Sam McIvor, Beef + Lamb NZ CEO: It's not always wise to engage in public debate.

to be world leaders in promoting clean water, achieving carbon neutrality by 2050, promoting biodiversity and maintaining healthy, productive soils. He said B+LNZ was working closely with DINZ to offer the Government an alternative to a levy-based system for achieving environmental goals.

He said that because emissions are linked directly to feed inputs, we can't "productivity" our way out of a poor situation as we did in the 1980s and 90s. The issue was highly politicised and was an area where NZ First was competing with National for rural votes. "You should be applying pressure to NZ First and also your local MPs."

B+LNZ was also applying scientific/technical arguments and closely scrutinising legal aspects when challenging government environmental policies affecting farming, McIvor explained.

He acknowledged that farmers learn best from each other, noting the good work done through B+LNZ's 160 Action Networks (1,200 farmers) and 70 catchment groups.

The definition of farming excellence had broadened beyond productivity, McIvor said. It now encompassed being a good employer, meeting consumer needs, environmental stewardship and maintaining the industry's social licence – all themes reflected in deer industry strategies.

When surveying farmers B+LNZ found many were preoccupied with external pressures, but the on-farm productivity issues identified were mainly internal parasites, diseases like BVD and facial eczema, cutting emissions, efficient farm systems and good financial analysis and benchmarking. "It was interesting to see those priorities coming through."

Another priority was investing in education and skills of young people coming into farming. The Government's vocational education review was "a tremendous opportunity to put farming in the driving seat".

Looking at the sector's engagement with government and the general public, B+LNZ was prioritising environment issues and telling farming stories better. "The good news is that we found nine out of 10 New Zealanders still eat red meat, and only 10 percent of New Zealanders don't like you!"

That said, he acknowledged there were times when it was wiser not to engage in a public debate. The industry had taken on Air New Zealand over its "Impossible Burger" but that had attracted considerable public blowback. "Sometimes it's better *not* to engage. We don't have to comment on every issue."

He said the wider population aren't always thinking about farmers – they worry about things like the cost of petrol and their jobs too.

On NAIT and biosecurity issues, McIvor said B+LNZ was concerned about eradication of diseases but was also keen to see that investment in these areas was used efficiently.

The organisation wasn't taking its strong support for granted and was working hard to stay in touch with its grass roots. Groups such as Māori and dairy farmers were significant contributors and would receive greater attention.

Welfare and NVSB matters

DINZ Quality Assurance Manager **John Tacon** reported on activity under the Animal Welfare (Care and Procedures) regulations that were introduced just over a year ago. A number of the generic regulations affect deer being transported (see **bit.ly/2oXYvJk**).

Tacon said most of the notices issued for deer under the regulations were for "back rub", with notices also issued in cases of lameness and injuries. Each attracted a \$500 infringement notice. He noted that head height in the deer crates is not an issue and couldn't be blamed for back rub injuries. Transporting an animal with a broken or bleeding antler or pedicle is also not acceptable and antler injuries should be allowed to heal before the stag is put on a truck (see also p30).

A new regulation applies to pregnant hinds being transported to slaughter: "Pregnant hinds must not be transported to slaughter within 21 days of their due fawning/calving date". The farmer (Person in Charge) is held responsible if any hind gives birth either on a truck or at a processing plant within 24 hours. The industry standard still remains that no pregnant hind can be transported after 1 October.

Tacon stressed that the driver is liable if an injured animal is delivered to the works, so they are within their rights to refuse to accept these for transport.

He reminded branch chairs that electric prodders cannot be used for deer being loaded onto trucks. "In any case, you'll wear both back feet if you do try."

Most of the few deer welfare complaints to MPI had been dealt with by education rather than infringements and/or prosecution, although one court case from 2017 is pending.

Tacon noted that the incidence of broken tails in deer found during processing had dropped significantly following publicity about the problem. He said the industry was to be congratulated for the improvement.

So far this year seven infringements regarding deer and NAIT tags have been issued.

Reporting on the Regulated Control Scheme (RCS), Tacon said 814 properties were on the list, with 248 selected for audit so far this year (more will be added). Of those already audited, 452 facilities have passed, 55 opted out of audit (normally farms with only a few stags), five were non-compliant and 55 were awaiting corrective actions to an agreed timeline (these timeframes are less generous than previously now that people know what's required). The aim is to have 900 fully compliant properties by the end of this season. Tacon said that because people have now had more time to get used to the RCS requirements, he expected more properties would pass their audits. "Sheds that have passed an audit must still maintain those standards. About 10–20 percent of all sheds will be RCS-audited each year in future, in conjunction with NVSB velvet removal audits."

Tacon said farms that have opted out of the RCS can't receive velvet tags and can't legally sign a VSD or sell velvet into the food chain. They can rejoin, but would have to pay the full cost of the audit for this. People new to the industry setting up a facility for the first time won't have to pay this fee.

Tacon said there had been some "silly" talk of people on noncompliant properties selling their velvet through a registered neighbour. "Think about the consequences of falsifying a VSD," he warned. "Something like that could trigger a product recall."

There are now 908 registered velvetters, the lowest number ever. A few were still awaiting signoff or hadn't paid fees but there were also 161 in abeyance and they were unlikely to rejoin as registered velvetters, Tacon said.

DINZ ordered plenty of tags and has been surprised by the numbers of requests for additional tags. Tacon wondered whether vets might not have been frugal enough. "Please only order the number of tags needed," he said.

He noted that the tags have never been supplied in sequential order, but that each packet shows the highest and lowest tag number in the batch.

The new tags should not be applied too tightly. "Although there is no proof of this happening yet, tags that are too tight might cause sweating and stop the antler from being dried properly right through."

There had been reports of the new tags coming unstuck in freezers (see p22 for tips about how to avoid this).

Tacon said the tags weren't long enough to go around especially thick antler. This could be addressed by applying the tag higher up where the beam is thinner. Also, a bit like those seatbelt extenders given to overweight airline passengers, DINZ is considering supplying "spacers" to ensure tags will go around very thick velvet, not too tightly.

A whole lot of science going on

Catharine Sayer, DINZ Science and Policy Manager, gave a comprehensive update on velvet traceability, the new DINZ innovation model, progress in developing a drench registered for deer, and programmes being funded by DEEResearch and VARNZ.

New tags

The new "luggage" style velvet tags are now in use. Sayer said they should incorporate a UHF chip from 2020. The case for proceeding to chipped tags and an electronic Velvet Status Declaration (eVSD) based on proof-of-concept work will be put to the board and she is hopeful this will lead to a more streamlined system with no more manual recording and an accessible, comprehensive database of tag IDs. "Nothing will be released until we're completely confident it works."

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New velvet tags have been rolled out this season.

DINZ Innovation Model

Sayer introduced a new model for governance and funding of science to ensure effort was going into the right areas and that farmers were engaged. The new innovation model will supersede DEEResearch and VARNZ.

A key feature is a continuation of investment beyond the research phase to ensure effective delivery and uptake of the work. "This will require closer partnerships between scientists and end users," she said. "Up until now, the delivery of science has been a bit haphazard. We want to make sure the work doesn't just end up on my desk. It has to go into the uptake phase."

There will be four portfolio areas, each with its own selfdirected strategy and steering group: environment, genetics, behind farmgate and post farmgate. Farmers, vets, scientists and others will be in the steering groups. The successful parasitology working group is a model for the steering groups. Both AgResearch and DINZ will provide portfolio leaders.

Steering groups will be able to redirect research effort if it seems to be losing its way – a more flexible approach that AgResearch is comfortable with.

Sayer said scientists in the parasitology group had been initially wary of farmers directing trial design but are now very positive about the partnership that's developed, in which farmers and vets have been able to express the key research questions.

Drench development

As noted in the P2P report (p35), the minimum preliminary work required to support registration of a triple oral drench for deer has been done. The clinical and manufacturing dossiers are now with MPI's Agricultural Compounds and Veterinary Medicines group. This work will be "pre-screened" for sufficiency before the formal application stage. Sayer said we won't know if the application is successful until early 2020 at the earliest. A commercial product made by partner Nexan, if it eventuates, is required to be efficacious, have a short meat withholding period, be available both through veterinarians and rural merchants and not be too expensive. A series of P2P–NZDFA parasite management best practice workshops – in which control tools other than simply

drench use will be covered – is also planned for next year.

Velvet antler research

Sayer reported that research into healthy brain ageing (see report in June/July 2019 Deer Industry News), an isotopic signature test, post-velvetting analgesia and compositional analysis have all been completed. A PhD fundamental science project looking at stem cell-mediated healing was going well and had six months to run.

The post-velvetting analgesia trial had not so far revealed an effective remedy for the very low levels of

residual pain/stress detected, but a small amount of funding was made available to continue looking for possible lines of enquiry.

The compositional analysis work for which reporting was imminent will update 30-year-old research into what components make up velvet, and will also reveal any impact of genetics, day of cutting and use of palm kernel on composition.

The healthy brain ageing project was limited in scope but showed positive benefits including some scientifically significant results. It is hoped that commercial entities may be interested in advancing this work on a bigger scale. Sayer said the initial trial had been sparked by no more than anecdotal evidence of a positive effect on brain ageing from velvet, so it was encouraging to see harder evidence emerging from the preliminary animal trial.

Looking ahead, work is planned on:

- compositional analysis for Russian/Sika velvet antler to see what differences there might be from the New Zealand product
- updating the velvet module in Deer Select, as demand for good genetic information from stag buyers increases
- packhouse cooling curves to assist exporters in demonstrating to plant auditors compliance with cold chain

management requirements looking at research options on blood loss after velvetting, other velvetting pain mitigation options, and functionality.

DEEResearch

An investigation into deep muscle bruising, which



Catharine Sayer: Scientists in parasitology group are positive about the partnership developing with farmers.

degrades quality, shows that beyond possible seasonal factors, there are no clear causes or associations. The problem affects both stags and hinds.

Research into relationships between behaviour, stress (e.g. from weaning) and productivity, had shown no strong linkages, Sayer reported.

Ongoing research includes:

- understanding the lifecycles of lungworm and gastrointestinal parasites in deer
- · genomic solutions for health and wellbeing
- · impacts of deer on hill- and high-country waterways
- greenhouse gas mitigation.

Several promising areas of research are coming up:

- The effects on whole-herd parasitism of selecting on breeding values for the CARLA antigen (results so far are "exciting").
- Investigating ways to easily detect lungworm infection, e.g. using real-time analysis of genetics indicating presence of lungworm, or taking saliva or even breath samples to detect them.
- Capturing more value from skins by highlighting ways to prevent damage on farm.

DeerPRO

Solis Norton, DINZ DeerPRO Manager, said about 500 farms accounting for 70 percent of the country's venison production now receive regular productivity reports from the programme. The animals identified with suspect lesions are usually on the lighter side, he said.

After a steady decline in numbers of Johne's-suspect lesions detected at processing there was a small spike in the 2017–18

as the year of birth. Farmers can override this default value with more precise birth date data if they wish.

"From 2017 onwards every NAIT number has year-of-birth information. Farmers just need to register them in the same year as they tag their weaners. This will improve the accuracy of their DeerPRO information."

Norton said DeerPRO was beginning to push the boundaries of its original mission of better control of Johne's disease with more generalised productivity information. However the Office of the Privacy Commissioner had advised that stakeholders need to be consulted about use of data if the original purpose has been widened.

Norton said it might be feasible for the programme to expand to look beyond Johne'ssuspect lesions and for other defects such as liver damage at slaughter. However for this sort of expansion to work, the information would need to be useful and health related, defects

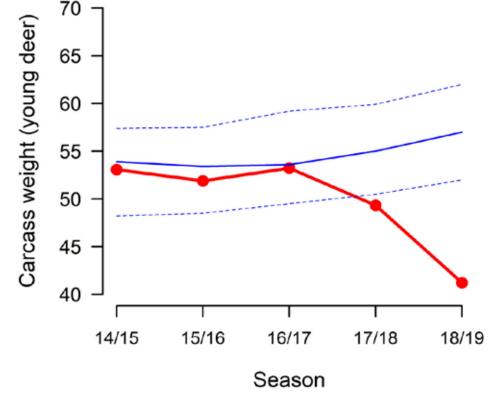


Solis Norton: DeerPRO could possibly look at monitoring issues beyond Johne's disease.

season. Norton said that after checking that the increase was statistically sound, the 50 or so farms involved were contacted and urged to refocus on their surveillance and control efforts. One farm's increase in suspect lesions clearly coincided with a drop in average carcass weights and other factors that were causing stress.

While numbers of lesions seem to have fallen back since 2017–18, Norton is urging farmers to be more vigilant for signs of Johne's disease, especially with tailenders or R2s about to join the breeding herd. "Don't be shy about getting some testing done," he said.

He said the previous age cutoff of 3 years between "old" and "young" animals in DeerPRO reports was now a bit more refined thanks to NAIT numbers for youngstock defaulting to the previous year



Graphs like this can provide DeerPRO users with very clear signals that something might be amiss with their animal health.



Attendees workshopping ideas for winter grazing best practice.

able to be remedied through some intervention, able to be easily recorded and occurring commonly enough to demonstrate trends.

Norton said the move of DeerPRO into DINZ had been a very positive step and allowed cost savings as well as integration with the DINZ and P2P work streams.

He thanked NZDFA for its ongoing support for the programme.

Winter grazing taskforce

Mark McCoard, NZDFA Executive Committee, said he and Tony Pearse had met the Government's Winter Grazing Taskforce, which was launched in August. He said the group was keen to learn more about the deer industry and it was gratifying to be able to separate deer from other stock classes.

The taskforce was a mix of scientists, vets and farmers plus one activist whose work had helped prompt the formation of the group.

McCoard said the deer industry's Environmental Management Code of Practice and the Deer Code of Welfare gave the taskforce a good understanding of what deer farmers were already doing to stay ahead of the game. The main focus of the taskforce is on welfare rather than environment. Pearse said they emphasised the importance of post-rut welfare of stags to the taskforce. "We explained how today's absence of malignant catarrhal fever was a good indicator that welfare had improved in this area. We also explained the role of crops in helping animals regain good condition."

Branch chairs then workshopped ideas for best practice with winter grazing. Top tips were:

- Winter cropping is an essential part of pasture improvement. It's important that animals have an escape route from a winter crop if needed.
- Keep it simple. Match animal feed demands to pasture curves and consider runoffs such as a pine block.
- Take heavier stags off crop to reduce welfare and environment risk and the amount of crop needed. (Some Southland farms have up to 18 percent of their area in winter crops each year, which isn't sustainable.)
- Consider indoor wintering some animals.
- Plan crops and winter grazing well before winter.

UPDATE: The Winter Grazing Taskforce's final report and recommendations became available late last month. Download from **bit.ly/2OotoRa**

Initial sector group reaction has been cautiously positive. DINZ has noted the positive steps already being taken by deer farmers to mitigate any effects of winter grazing and has reiterated the importance of farmers working together in local groups to work on any changes needed to farm systems with regard to winter grazing. DINZ has also highlighted the value of having knowledgeable deer farmers involved in the Winter Grazing Taskforce.

Understanding emissions

Arguments about reducing agricultural emissions are sometimes superficial, and DeerPRO Manager **Solis Norton** decided he wanted to dig deeper to see what's actually happening with energy use as a key to understanding the challenges presented by the Climate Change Response (Zero Carbon) Amendment Bill, which became law last month.

Norton has recently completed a Nuffield International Farming Scholarship. His topic was *Energy Use in New Zealand's Primary Food Production Chains and a Transition to Lower Emissions*. He outlined his findings for branch chairs.

Norton said the exponential growth in human population in recent centuries was closely linked to the exploitation of fossil fuels. While everyone agrees we need to wean ourselves off them as a primary energy source, investment patterns are telling a different story.

"The IPCC says we need to reduce oil and gas production by 25 percent by 2025, yet the oil companies are investing trillions to increase production." He said the surge in investment in green energy technologies was dwarfed by fossil fuel company spending.

Norton analysed energy use and noted that to understand the real efficiency of different energy sources, we also need to understand how much goes into creating energy generation (e.g. what goes into manufacturing a wind turbine or car).

In these efficiency terms, hydro is way ahead of other energy sources for producing electricity. Of the fossil fuels, coal is significantly more efficient than, say tar sands, in terms of energy outputs: energy inputs. Farmers understand this model because it is much the same as a feed budget – measuring the inputs needed to get the desired output.

Norton said to achieve our carbon zero goals, New Zealand as a whole will have to reduce energy inputs by about 15 percent (which would take us back to 1980 levels on an energy use per person basis). At the same time, we are looking to double our GDP, which will be a huge challenge. Norton said the primary sector will be expected to double its energy use efficiency over the next 25 years – a "ridiculous" goal at present.

"We need to look through the whole primary production chain to analyse energy inputs and outputs and find any low-hanging fruit to make energy savings that we might have overlooked."

Measurement was essential. There were some tools available for farming to use, such as the Lincoln Calculator (lincoln.ac.nz/ Research/Research/RC/AERU/Carbon-Calculator/) and a clip-on for Overseer. In reality we need a healthy balance between "quick and dirty" blanket regulations and excessively detailed farm-byfarm measurements.

Norton said the primary sector should get busy applying emissions measuring tools to farms or groups of farms, making cautious changes based on common sense and good data. "We must showcase fact-based good news stories about what we are doing to reduce emissions. We must also build up our own industry data. With it we can be certain our emissions-based changes do actually make sense for us and are not a knee jerk reaction to external pressures and policies not based directly on relevant data."

Emissions can be cut but options are limited: Study

The good news, from a study on options for deer farms to cut greenhouse gas (GHG) emissions is that there are tools available. The not-so-good news is that beyond cutting livestock numbers, the options for making meaningful cuts are limited when it comes to methane. That is because the Climate Change Response (Zero Carbon) Amendment Bill didn't allow trees to be used to offset methane emissions.

Alesha Cooper, Agfirst, presented the results of a DINZcommissioned four-farm case study into the available options for deer farmers to reduce emissions. They represent a range of farm systems.

Cooper said overall GHG emissions from New Zealand agriculture had risen by 13.5 percent since 1990, slightly ahead of the emissions from deer (+10 percent). Some of the biggest emissions increases were from dairy, fertiliser use and manure management.

Of the agricultural emissions, methane from ruminants accounts for nearly 72 percent while nitrous oxide from soils is the next biggest contributor (22 percent). In terms of CO_2 equivalent (CO2e) produced per kilogram of product, venison is actually the most "expensive" meat, producing 30.7kg CO_2 e per kg, compared with 14.2kg CO_2 e for beef.

The four case study farms were quite contrasting in terms of management and livestock policy (Table 1).

The amount of GHG produced per stock unit varied. Deer and cattle were about the same when averaged over the four farms and sheep were a little lower.

Cooper said individual methane production per animal is closely linked to the amount of dry matter consumed. Although some feeds such as fodder beet, forage rape and cereals give lower emissions, she said it would take a very big change in diet to have much impact. She said current mitigation options for livestock largely focused on reducing dry matter intake and lowering nitrogen (N) intakes and use. But there is no free lunch and beyond reducing stock numbers, using lower-emitting stock classes (sheep), reducing N use or using lower-N feeds, not much can be done at present, particularly for methane. A nitrification inhibitor on one farm gave a 2.8 percent reduction in GHG emissions, but tinkering with stock policies didn't achieve a lot (Table 2).

Cooper said all mitigation options had to fit with the individual farm situation and warned that some measures, such as reducing the stocking rate, could throw up other challenges like pasture management.

While there are new technologies on the horizon, it won't be soon and there are likely to be limitations, she said. For example a methane-reducing vaccine promised reductions of up to 30 percent, but hadn't worked so well in field conditions. Others like methane inhibitors worked only in housed stock, and while a lowemissions GM ryegrass offered promise, there were significant marketing and regulatory hurdles to overcome first.

The carbon offsets available from established trees varied considerably for the four farms – from zero to 46.5 percent when only taking post 1989 plantings into account. Cooper said that while planting trees could offset some emissions, the new legislation didn't allow them to be used to offset methane. She also warned that forestry isn't a permanent solution. In addition to replanting an existing area at harvest, additional acreage would need to be planted to maintain the offsets available.

Table	1: Cas	e study	farm	information.
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Farm information	Farm 1	Farm 2	Farm 3	Farm 4				
Description	East Coast NI moderate hill	East Coast NI flat to steep hill	SI high country	SI flat to rolling				
Focus of farm system	Velvet	Breeding and finishing	Breeding and finishing	Venison				
Total farm area	332.1 ha	740 ha	4374 ha	796.7 ha				
Stock units grazed/ha	10.9 SU/ha	8.7 SU/ha	3.0 SU/ha	18.7 SU/ha				
Deer:cattle:sheep	79:16:5	29:31:40	22:25:53	78:19:3				
Crop area	25 ha	9.5 ha	98.5 ha	113 ha				
N fertiliser use	49kg/ha/yr	1kg/ha/yr	3kg/ha/yr	55kg/ha/yr				

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Table 2: Effect of mitigation options.

Mitigation options	Farm 1	Farm 2	Farm 3	Farm 4
Nitrification inhibitor	2.8%			
Increase sheep ratio from 40% to 60%		1.2%		
Improve sheep breeding performance and lower sheep stocking rate			5.7%	
Reducing beef from 25% to 15%			0.5%	
Halve breeding cow numbers and replace with sheep				0.5%
Finish steers earlier		0.1%		
Trade steers only	0.1%			
Remove breeding cows and replace with trade beef				0.1%
Remove carryover dairy cows				3.1%
Remove spring urea and replace with imported feed	1.2%			
Change type of imported feed	0.2%			
Change to crop area				0.1%

There has been a lot of talk over the years about farms receiving carbon credits for sequestration in grass and soil, but Cooper put paid to that. There is some capacity for soil to absorb more carbon; however the other side of the coin is that it can just as easily be lost through soil erosion or during drought. Grass also lost its carbon, either through decay or via the animals that graze it, she said.

In summary, she supported the observation of Solis Norton that mitigation options should be developed to suit each farm situation and that good measuring was essential.

For reducing methane the only feasible options available now were to reduce stocking rates and rebalance stock classes. Genetics was one other possible tool for the future.

For reducing other GHGs, the above options were also relevant, along with tree planting, reducing N inputs and trying different feeds.

For further information on the deer case study farms: www.deernz.org/reduce-emissions

NZDFA discussion

Constitutional changes

The requirement to have equal representation for the North and South Islands on the Selection and Appointments Panel and Executive Committee is no longer considered necessary. Both groups require the "best people for the job" regardless of location. The constitution was amended to remove the need for geographical representation.

Rising Stars

The 2019 competition, hosted for the first time at Black Forest Park by the Otago DFA was considered a success. Timing of mid-March was thought to be about right, late enough for hard antler to be ready, and early enough to catch semen sales for the season. Better care of sponsors and judges would be a priority for next year.

2020 Deer Industry Conference

This will be hosted at the Bill Richardson Transport Museum in Invercargill from 19–21 May, with the 21st devoted to a technical day. It was agreed that although having a professional facilitator adds to the cost, it also adds considerable value and enjoyment to the event. More details to follow.

Next Generation programme August 2019

This also went well, with positive feedback about the workshop format. It was a diverse group, average age about 25. One attendee would have liked more practical activity. Better explanation of industry jargon, acronyms and so on were suggested. Next year's conference will also be in the South Island.

Leadership programmes

Some funding is available for people to attend leadership programmes such as the Kellogg, Nuffield, Agri-Women's Escalator Programme, etc.

New Faces programme

This continued, with six new faces attending the meeting. Feedback from attendees included:

- Getting involved in the DFA is still an important step in industry leadership, especially learning about governance.
- DFA support for newcomers is very helpful, but it needs to be kept fresh, perhaps by bringing in innovators from other sectors.
- Shortage of skills and labour for the deer industry is an ongoing problem for many.
- More needs to be done to teach younger members about how the industry organisations work and how they can help.
- The DFA has been very important when it comes to giving feedback on local regulations to regional councils.
- The presence of Advance Parties has positive spinoffs for local branches, helping people reconnect.

Gently spiced venison salad

by Martin Bosley Preparation: 40 minutes Cooking time: 8 minutes

Ingredients

For the venison

400–500g venison shortloin 2 tbsp cooking oil

Dressing

2 small red chillies 2 garlic cloves 1 lime, for the juice a pinch of sugar 3 tbsp fish sauce

3 tbsp sweet chilli sauce

Method

- Heat the barbecue grill or ridged frying pan, oil the shortloins with the cooking oil and set them to one side.
- Cut the chillies in half and remove the seeds. Finely slice the flesh and place in a mixing bowl with the lime juice, sugar, fish sauce and sweet chilli sauce. Set to one side for 30 minutes for the ingredients to get to know each other and settle down.
- Roughly chop the coriander and mint, bruising it more than cutting it, and place in a mixing bowl.
- Slice the cucumber and carrot into long, matchstick sized lengths and add to the chopped herbs.

For the salad

A large handful of coriander leaves 1⁄2 telegraph cucumber 2 carrots 1 bunch watercress 16 cherry tomatoes 100g peanuts, roasted

Wash the watercress, pinch the leaves and branches from the stems, cut the tomatoes in half and add with the watercress to the salad.

• Place the shortloin on the grill and cook until pleasantly singed on the outside and medium rare on the inside, about 4 minutes on each side. Remove to a warm place to rest for 10 minutes.

To serve

Slice into 2cm thick strips and add to the salad bowl. Pour the dressing over, toss gently together well and serve while the venison is still warm. It's okay if the leaves wilt a little.

Chef's note

I've used shortloin here, because it is a premium cut, but I have also used tender medallions or Denver leg for this style of dish and these cuts work just as well.



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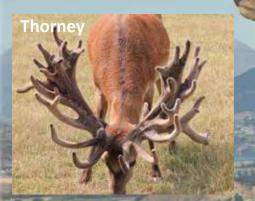
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