Deer Industry News

National Advance Party Workshop

Canterbury Regional Workshop
NUMBERS STACK UP WELL FOR MAJOR VELVET EXPANSION

Deer Tech Expo
VIRTUAL FENCING, ENVIRONMENT GROUPS, PLANNING CROPS AND MUCH MORE!

Summer Cervena
CERVENA SIZZLES IN HOT EUROPEAN SUMMER SEASON, BUILDING NEW MARKET

Deer Industry New Zealand | NZDFA NZ Deer Farmers Association | AUGUST/SEPTEMBER 2019

Carr's Supplements

Crystalyx

CATTLE BOOSTER (PREVIOUSLY FORAGE PLUS)

FOR DEER ALL YEAR ROUND.

- Ideal for weaners post weaning when fed on pasture or crop alone
- Perfect for Stags after mating (Rut) to help rebuild and improve lost condition and increase DLWG
- Maintains condition in hinds in fawn on lower quality forages or on crops
- Packed full of Protein, Energy, Vitamins, Minerals and Trace Elements, essential for improved rumen function, digestion, immunity and general health

Janey Hayes has supplemented her deer for years with Crystalyx Cattle Booster Feed licks and comments:

"After a successful period of over 8 years the results in my deer herd are phenomenal. The health, wellbeing, live weight gains and velvet have shown significant improvements according to my well-kept records.

Overall herd management has been improved due to reducing the amount of time spent on drenching and vaccinating.

Crystalyx Cattle Booster is an absolute "MUST" for our deer."

+64 03 974 9274
admin@crystalyx.co.nz
www.crystalyx.co.nz

Crystalyx NZ

Deer Industry News

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

ISSUE 97 | **AUGUST/SEPTEMBER 2019**
ISSN 1176-0753

Contents

Cover: Hybrid weaners enjoying good late winter pasture growth at Wellington Farms, Te Awamutu. The Wellingtons provided one of three venues for the 2019 National Advance Party Workshop (see page 4).
Photo: Phil Stewart.

Looking to the next generation

Grant Charteris.

THE ACTIVITIES OF the NZDFA Executive Committee have grown. We show leadership and guidance to our deer farming constituency on the issues of today, but also encourage the emerging next generation so that we have a sustainable industry. This also involves having a vision that fits with our ever-changing environment. The way that the DFA works shows real maturity, not only of our industry but also in the way that DFA, the DINZ team and DINZ Board are working so well together. We have great lines of communication and shared goals for the growth of the deer industry. (And while on the subject of DINZ, on behalf of the NZDFA I'd like to thank their departing CEO Dan Coup for his huge contribution over the past six years and wish him well in his new role. Dan is part of the reason our two organisations have been working so well together. See the article on page 26 for more.)

Seven years ago, aged just 34, I joined a reasonably fresh group of faces of the DFA Executive Committee.

We felt more could be done for our ageing population of farmers, because having very few of the next generation coming through was not a great succession plan. The environment we have created with the Next Generation Programme is amazing and has grown legs that we could have only dreamed of at its inception. At first we wondered whether we would run it biennially so we could get enough attendees, but soon found out that they were out there – we just weren't finding the right ways to encourage them. This has been helped immensely by the Passion2Profit Programme and the creation of Advance Parties. Through these trusted networks we can utilise farmer-to-farmer knowledge transfer and the power of small groups sharing common interests. There were doubts at first: "don't reinvent the wheel – we already know this stuff". But it's been proven that when you get farmers sharing and showing this stuff, uptake far exceeds the paperwork that was sitting in the archives.

This has also created more effective ways to utilise industry experts such as vets, scientists and agronomists.

When we asked the Next Generation attendees a few years ago what else they would value, they said farm succession workshops and knowledge on pathways to ownership. We engaged Tony Hammington, ex Rabobank and an expert in this field, to run a session on farm succession. It was so well received that the Executive Committee decided to apply to MPI's Sustainable Farming Fund to continue the work with Tony with a goal to reach 50 deer farming families over two years. The aims were to answer the questions: "How do we start and progress this conversation, and what are the principles and procedures?" Just over a year later we have engaged with 214 people within the deer industry and given people the start they needed along this often-complicated road. This project will be wound up by Tony Hammington at this year's Next Generation programme.

In the past seven years that I have been involved in the DFA Executive Committee, I have immensely enjoyed being part of the leadership of an industry that I am very proud of. When you are passionate about something it is an honour and privilege to help guide it

continued on page 4

Deer Industry News is published by Deer Industry New Zealand in February, April, June, August, October and December. It is circulated to all known deer farmers, processors, exporters and others with an interest in the deer industry. The opinions expressed in *Deer Industry News* do not necessarily reflect the views of Deer Industry New Zealand or the New Zealand Deer Farmers' Association.

EDITOR Phil Stewart, Words & Pictures

EDITORIAL AND ADVERTISING ENQUIRIES
Words & Pictures, 11/94 Dixon Street, Wellington
Ph 04 384 4688, 021 620 399
email phil@wordpict.co.nz

CIRCULATION ENQUIRIES
Deer Industry New Zealand, PO Box 10-702
Wellington, Ph 04 471 6114,
email info@ deernz.org

AP National Workshop heads back to the land

by Phil Stewart, *Deer Industry News* Editor, additional reporting by Tony Pearse

There was a shift in emphasis for the P2P Advance Party National Workshop, held in Te Awamutu on 29 and 30 July. In response to farmer feedback from earlier workshops, this year's event featured a combination of seminars and farm visits, with attendees taken around three well-known Waikato deer farms and engaged at ground level to keep it all real.

GIVEN THE CONSTRAINTS of time and travel, the business end of the workshop was cleverly packed into an afternoon and following morning, with attendees getting the opportunity to do and see plenty in that time. As always, DINZ's Rob Aloe managed logistics with his excellent cat-herding skills, making sure the right people got on the right buses at the right time with the right motivation.

Individual workshops focused on animal health, feeding, genetics/reproduction and environment. Each workshop had facilitators and subject matter experts on hand to keep discussion moving and address the many questions that inevitably arose.

Deer Industry News got to two of the three farms and attended workshops on feeding and genetics/reproduction, and DINZ Producer Manager Tony Pearse added a report from a nutrition workshop at Raroa Red Deer Stud (see pp10-11).

Feeding workshop: Wellington Farms

Visitors from outside Waikato were impressed by the excellent early spring grass growth and high production of grass silage on the Wellington family's property south of Te Awamutu. Another local feature that struck the out-of-towners was the important role palm kernel expeller (PKE) plays in the feed systems for many Waikato farms – something that prompted a lot of discussion, with one person concerned that the supplement might eventually be seen as the "plastic bags" of deer farming.

The workshop was facilitated by Justin Geary and kicked off by Lyndon Matthews, who canvassed opinions as to why his 175 R2 hinds had recorded a very poor scanning rate (35 percent) this year. Was feed the issue? "We spent a lot of money finding out what *wasn't* the cause," he said.

He said he can usually get weaners through from 55kg to 75kg in the 100 days of autumn in his summer-dry region of North Canterbury. There was nothing much different about the condition and growth of the R2s this year, but for some reason "they just didn't seem to be cycling". They had been given lucerne silage and grain in the lead up to the roar and maintained or even put on condition during mating. They had grown from an average 98kg to 108kg over the summer, which was acceptable. AgResearch's David Stevens said it was unlikely the silage would have been a cause, since the same feed had been given to other mobs with no ill effects.

Visitors were impressed with the grass covers and body condition on the Wellingtons' property.

Matthews said he's considering introducing Raphno (a kale/radish hybrid) to help push along R2 growth, but was warned the crop needs work to keep growth under control. Others in the area had also experienced poor scanning. If feed was indeed the issue, the exact cause was still a mystery. (The stag had been pulled out a little earlier than usual this year, but this was the only management difference from earlier years.)

Editorial: continued

and shape the future. With all the challenges we face in farming, we need to adapt how we deal with changing issues. That's why I call on the next generation to get involved in branches and think about leadership roles, because we need new ideas and fresh faces to be effective.

As this copy of the *Deer Industry News* hits your hands, the 2019 Next Generation programme will be underway in the McKenzie basin with an in-depth look at Haldon Station, managed by Paddy Boyd with wife Barb, then up to Fairlie to look at The Kowhais, run by Tom and Samantha Macfarlane. Detailed reporting of the 2019 Next Generation event will feature in the October issue.

I have every confidence that in its 7th year, this Next Generation programme will continue to expand the NZDFA's networks and future proofing, and its evolving leadership. ■

– Grant Charteris, NZDFA Executive Committee

Local farmer Lydene Hayes was one of the many in the district using plenty of PKE and grass for her deer, with no crop or grass silage. But this year surplus maize silage from the farm's dairy unit was used, along with PKE, at about 400g/head/day.

Velvetting stags at Wellington Farms.

She said growing out R2s to a good size was a challenge, especially in the spring period. No stock were weighed on the property and it was suggested this might help getting a better handle on growth rates. David Stevens suggested also using the DeerFeed app (**deernz.org/deerapp**) to get a better idea of what feed was needed to reach targets.

"Our ultimate measure with R2s is pregnancy rates," Hayes said, noting that the owners don't drench, weigh or vaccinate.

James van Bohemen, who is farming operations manager at Pāmu's Rangitaiki Station, said they have "explosive" spring growth on flat, intensive country that doesn't have a lot of shelter.

"Our challenge is finding a balance between the covers they set stock on, and how much feed they are prepared to lose during fawning, then converting that into good feed growth for lactation. "We deck our fawning country before set stocking, knowing it's going to come away strongly. This year we are looking to chemically top pastures to grow higher covers in time for fawning."

They were also trying putting other stock classes (beef cows and lambs) in with the deer leading into summer to try and manage pasture quality better.

van Bohemen said a pasture renewal programme at Rangitaiki had increased feed production, especially during winter and spring. Others in the group advised chemical topping should be done well before fawning, so as to minimise disturbance risk to fawning hinds.

David Stevens said it was a long-held recommendation that any topping – mowing or chemical – should leave a block about 10–15 percent of the paddock area in the middle untreated or not topped, away from fencelines, to provide cover for fawns to hide in and discourage them from migrating through fences to seek areas to hide in.

Jacqui Wellington, Andrew Wellington and Hollie Adams with their 'thank you' gift for hosting the AP workshops on their farm.

"If the lactating hind is getting good quality feed, that feed value will flow into the fawn before weaning, giving it a good platform to grow well in autumn after weaning. It's hugely important that the fawn gets access to high-quality feed during the last 6 weeks before weaning so that its rumen is well developed. If feed quality has been poor, it's been getting all its growth from mum up until weaning, then it won't do so well. If you have good grass, the fawn will go on and keep growing well after weaning."

Lyndon Matthews said he'd seen fawn growth rates of 400–500g/day in the few weeks between tagging and weaning, when good pasture was available.

Andrew Wellington said a 50:50 mix of dried distillers' grain (DDG) and palm kernel provides excellent feed for lactating hinds. He said a lot of the DDG is maize derived and high in protein (about 30 percent), covering a feed gap during the summer dry. "It's safer to feed than straight maize – there's less risk of acidosis."

He said the mix flows well and can be used in an Advantage Feeder. "It's like a kibbled maize. The lactating hinds get about 2kg a day."

Lactating hinds start getting 0.5kg/day of first-cut silage from about mid January to help with keeping up protein levels, a lesson he learned from working in the dairy industry. Grain is also fed at this time to start training the weaners. The fawns also get an 80:20 PKE:DDG mix after weaning. "They'll eat twice as much with that DDG in there."

Nutrition consultant Trish Lewis said a feed high in protein like this can help make up for a pasture protein deficit in the summer period between spring and autumn, when fresh pasture usually provides plenty.

David Stevens said crude protein (CP) in pasture typically drops from about 25–30 percent in winter to 12–18 percent in summer.

continued on page 6

National AP Workshop: continued

He said fawns need between 20–25 percent CP over this period. The milk they get peaks at about 30 percent CP and the grass they eat is about 12–18 percent (lucerne is about 18–24 percent). Between the milk and the grazing, they should be meeting their CP needs, he said.

"When it's weaned it will need about 18–22 percent CP on grass and in a mixed ration about 14–18 percent."

He noted the CP levels don't drop so low in the South Island. "In the end it's a question of quality and quantity available."

The well-managed self-feed silage pit next to the pine wintering block at the Wellingtons'.

Trish Lewis said she recommends pasture and silage analysis to find out what animals are actually getting. "You can then see how much energy and protein they are getting and adjust accordingly if there's a shortfall. It's always best if it's an informed decision. Doing pasture and silage analysis will help you build up a picture of your farm and give you feedback on what works and what doesn't."

Lewis said there were three things to get right when making good silage:

1. Good leafy material
2. Establishing a good fermentation process
3. Creating a good environment with proper compacting and exclusion of air. (Because deer require a relatively shallow pit, the area of cover needed for the volume of silage is quite large with a greater risk of it being breached. An oxygen film barrier can help protect the silage, see **https://bit.ly/2yU6Izk**.)

David Seifert said deer are primed to start a burst of growth from about 10 August but at his central North Island property, grass growth starts a few weeks later, so they need to find something (usually maize and grass baleage) to fill the gap and take advantage of that seasonal pattern. Finding the right length of time to spell a pasture before seedheads appeared and quality really went off was a challenge in his environment with such a late spring.

Farm Profile: Wellington Farms

Jacqui Wellington, Andrew Wellington and Hollie Adams

Area: 720ha total, 625ha effective, 400ha deer fenced
Contour: 170ha gentle–rolling, balance medium–steep hill
Altitude: Up to 200m asl
Rainfall: 1,500mm (can be summer dry)
Main farming operations: Velvet & venison plus heifer grazing (also 480 sheep, numbers reducing)
Deer tallies:

MA hinds (red with some Eastern):	1,387
R2 hinds:	273
R1 hinds (½ replacement reds and ½ wap x):	635
R1 stags (½ replacement reds and ½ wap x):	661
MA velvetting stags:	720
Red sire stags:	15
Wapiti terminal sire stags:	23
Total deer stock units:	9,364

Cattle:

R1/R2 dairy grazers, May–May:	740
R1 heifer dairy grazers, Dec–May:	380
Pastures:	Ryegrass/clover (some regrassing on flat paddocks)
Crops:	No cropping

Supplementary feed:

Silage:	500ha cut for pit silage, hinds wintered 3 months on self-feed pit + palm kernel
Palm kernel:	700 tonnes (600 tonnes for deer)
Dried distillers' grain:	100 tonnes
Maize grain:	40 tonnes

Velvet production – average total harvest 2018/19:

2yo:	3.18kg	3yo:	5.94kg
5yo:	8.81kg	7yo:	9.27kg
MA:	8.65kg		

Weaning percentage 2018:

MA hinds (red sire):	86.8%
MA hinds (wapiti sire):	81.2%
R2 hinds:	71.0%

Notes:

- Dairy grazers or velvet stags (after first cut) are used to control pasture to maintain feed quality.
- Eastern hinds are about 140kg.
- Wapiti cross venison stags are retained after the wap cross hinds have gone to slaughter, to take advantage of the first velvet cut, up to 0.5kg/head.
- About 600 hinds are wintered each year in the pine block and fed at a self-feed silage pit (see photo). Once the trees are harvested the Wellingtons are considering replanting the block and using the income from the trees to build Herd Home type shelters to winter hinds.
- The sediment ponds built several years ago below the wintering block are doing a good job. They require regular cleaning out, with the spoil spread back over the pastures.
- A separate workshop group at the Wellingtons' farm looked at environmental issues and complimented the family on the work they were doing with double ponds and trapping sediments coming out of the deer shed.

Andrew Wellington (standing at left) shows the technology used to help with recording during a genetics and reproduction workshop.

Too much copper?

Reporting back from a separate animal health workshop, AP facilitator Richard Hilson said copper seemed to be used for deer in Waikato in very generous quantities.

"It's available in palm kernel, fertiliser, copper bullets, injections, copper salt licks and so on, but our subject matter expert and veterinarian Dave Lawrence said a lot of money is probably being wasted on these products."

A second subject matter expert, Ginny Dodunski, had commented that recommended reference ranges for copper levels in deer were probably set too high, so it looked as though they were deficient when in reality they probably had enough.

"There's probably too much copper going in, especially in summer when levels are already high," Hilson said. "The stuff is toxic. There needs to be a lot more monitoring to find out what's really going on."

Genetics and reproduction workshop: Hunter Deer

John and Zoe Hunter's 94-hectare rolling property south of Te Awamutu is dedicated to breeding and velvetting and is stocked at an impressive 27su/ha. The family has been on the property since 1954, running deer for the past 40 years – which is also the age of some of the still very dense and productive pastures. Barry Hogg and Geoff Hawker manage the property.

John Hunter.

John Hunter was mainly a maize grower, and that background has been useful for the deer farm by providing a good soil fertility base.

There's a breeding herd of about 200 mixed-age (MA) hinds plus 28 R2s and 79 R1s. There are 360 MA velvet stags, plus 52 R2s and 94 R1s.

Like many other Waikato deer farms, Hunter Deer uses plenty of palm kernel (100 tonnes), plus 150 bales of lucerne baleage from another property and 200 bales of grass baleage made on farm. The palm kernel is cost effective at 3.3c/megajoule, compared with lucerne baleage (3.7c) and barley (4.2c). In future the palm kernel may be used mainly as a drought stopgap and also to post-rut feed the stags, with lucerne taking a greater role.

Visitors floated the idea of incorporating some chicory or plantain into the pastures, although it was felt the grass was still growing well, despite the age and with such an intensive set stocking system it would be hard to rest a pasture long enough to get the forages established. However, plantain was suggested as a way to increase availability of calcium to stock, since the farm has a low base saturation of the element.

Eighty hectares is deer fenced, with the balance devoted to reserves and trees. Some of these are planted to filter water leaving the property, some are conservation planting, some for shelter and screening and some native trees are there to promote biodiversity

continued on page 8

National AP Workshop: continued

Velvetting stags at Hunter Deer.

(the farm is only 10km from the Maungatautari Mountain reserve). Double fencing with Lombardy poplar shelter is being set up, partly to provide better screening between mating mobs.

The Mairoa ash soils are erosion prone and there is a work programme to repair damage from fence pacing and wallows. A meandering stream running through the property provides good potential to develop and protect a wetland area (see photo on opposite page).

Breeding hinds at Hunter Deer – improving reproductive performance is a priority.

Barry Hogg, who came to the farm as a manager in January this year, said all deer are set stocked in settled mobs, so are well socialised and quiet. Hogg said the deer were used to people and velvet was rarely damaged.

The downside of all the set stocking is that it requires a lot of feeding out over winter, and also the grazing pressure doesn't allow clover to get well established. He said they have been focusing on post-rut feeding to bring stag condition up quickly and possibly promote greater velvet production from the existing base.

He said the herd has been well developed by the Hunters over the past 40 years and features genetics from Stanfield, Foveran, Tower Farms and the sire Walton (formerly of Windermere). "The herd is now closed, but we still use the best semen available for velvet traits."

Hogg said the culling cut-off for velvet at two years is 3.0kg. Surplus 2-year-olds are sold.

He said he's looking forward to going through the farm records to identify the best hinds. One issue he was keen to address was the farm's poor reproductive performance – the R2 weaning

Barry Hogg: Looking forward to scrutinising records to get a better fix on reproductive performance.

percentage (to hinds mated) is 70 percent. The hinds are not scanned and he is not sure which hinds have been failing to raise a fawn. Also, because of the farm layout, it's difficult to give hinds the space and privacy they need for successful fawning.

Ideas from the group to address this included using branches cut from poplars and/or conventional hay bales to provide cover to fawns within each paddock (stop them running through fences and getting mismothered). Another strategy recommended was to temporarily fence off a section of pasture in the middle of the paddock, allowing it to go long and rank to provide cover to fawns.

Hunter Deer young stock: the farm now operates as a closed herd, but incorporates genetics from some of New Zealand's top velvet studs.

Workshopping genetics

Facilitator Greg Sheppard led a lively session on genetics and reproduction, assisted by John Stantiall and subject matter expert Geoff Asher. Some of the issues raised were also discussed at the recent Hawke's Bay Regional Workshop (see page 33) so are not repeated here. Key advice to come out of the session included:

- Genetic improvement is cumulative and works the same way as compound interest. Seek out a breeder who shares your breeding goals for your best return on your genetic investment.

- Velvet traits are highly heritable and easily improved, but other traits within a velvet herd are still worth pursuing.
- If you chase only velvet traits you might pay a price further down the track – for example, the relationship between body and antler size getting out of whack.
- Having big breeding hinds is not always a bad thing – it depends on the type of country. Big hinds do produce bigger and better fawns.
- For velvet traits, which are not well covered in Deer Select, we might have reached a point of diminishing returns for sheer size and weight. There may be a case for shifting attention towards quality traits or antler composition to extract greater value.

The stream running through John Hunter's farm presents a great opportunity to create a wetland and sediment trapping.

- We need to avoid the mistakes made in the dairy and pig industries when it comes to chasing productive traits too hard. More useful traits for deer could include fitness, parasite resistance (CARLA), immune system and so on.
- There is a conflict between immune system and growth: animals with hyper-immunity don't grow so well, and vice versa, especially if there is nutrition pressure. Drenches provide a substitute for the immune system when it comes to parasites.
- Although deer are very prone to stress, which can trigger disease, animals that are handled frequently become quieter and easier to handle and seem less stress prone. The experience of deer milkers and researchers bears this out.
- When you have to subject fawns to stressful situations (vaccinations, tagging, weighing, etc), it's best to do this before weaning, as they will be less likely to associate the noxious experience with humans while still on mum and any stress created with the interventions is shielded by the mother–fawn connection.
- Mature weights for red deer have increased as the national herd has shifted away from small Scottish-type reds. The best time to assess a hind's mature weight is at weaning when her body condition score should be 3.5. The target for mature weight may change with time if you keep selecting for size and growth.
- Poor conception rates in R2s comprise one of the biggest sources of reproductive wastage. This needs to be addressed if you want to have a high replacement rate for hinds each year. R2s are prone to wastage through the reproductive cycle, from conception to weaning.
- Getting R2s to 95 percent of their mature weight by 16 months of age would really boost conception rates. R2s are less competent mothers than older hinds, so a high conception rate is needed to offset likely higher losses from fawning to weaning.
- The effect of toxoplasmosis on reproduction might be underestimated. A heavy burden can overwhelm the vaccine and a good strategy is to control cats on the property.
- Hinds require cover and space for fawning. Dragging a few large branches into a paddock can help when there's no natural cover. Fencing off a corner or better still a block in the middle away from fencelines can help provide the low cover fawning hinds look for.
- Introducing scanning and broad fetal ageing is an easy and fairly inexpensive way to get a better picture of what hinds are performing and what the mating patterns are.

Dave Lawrence later reported from a second genetics/reproduction workshop, with additional recommendations made:

- Identify poor fawning paddocks. Some are repeat offenders.
- Always putting first fawners in the same paddock might not be advisable if results are poor.
- The importance of pre-mating socialisation of stags and young hinds can't be over-emphasised.
- Use regular weighing and recording to track progress from year to year when growing out R2s.

continued on page 10

National AP Workshop: continued

Other workshop suggestions for Hunter Deer

- Further fencing is needed to protect waterways and steeper, erosion-prone areas.
- Rock fill could help mitigate the effects of a "perched culvert" in the main waterway.
- For creating a wetland, maintain the stream's meander and consider a series of smaller sediment ponds rather than one big pond.
- Consider more double-fencing and screening or use of hotwires or electrified "wands" to discourage fence pacing.
- Monitor water quality as water enters and leaves the property. This is enlightening!

What changes might you try at home?

Deer Industry News put this question to some of the attendees, asking what changes they might consider on their own farms following one of the workshops. Here's what some of them said.

"We'll look at more planting and double fencing. I like the idea of providing a block of cover [for fawning] in the middle of the paddock."

– Margaret Niven, Otaki

"More scanning to get a better idea of where losses are happening, especially with the R2s."

– Ainslie Kalb, Milton, Otago

"This has confirmed my thoughts about improving our fawning environment. I like the idea of using some branches, and growing some longer cover in the middle of the paddock."

– Mark Jessep, Napier

"It's prompted me to take a closer look at the [regional land and water] plan changes that are coming. I want to know if I can keep feeding deer on crop. Making silage isn't an option for us. We could put on more nitrogen to grow more grass, but that's limited too. It's all about the social licence to farm."

David Seifert, Raetihi, central North Island

"We'll definitely look again at the fawning environment. We've been working to cut reproductive wastage and that's part of it, but seeing how people handle it in a different environment gives you a fresh perspective."

– James van Bohemen, Rangitaiki Station, central North Island

Animal health workshop

BJ Bowsher reported on the key issues raised. These included:

- **Ticks** are a major issue in Waikato. Locals use tick tags, flumethrin pour-on and cross grazing to help control them. It's a difficult risk to manage and the main option is to maintain good treatment.
- **Facial eczema** is another big issue for Waikato deer, with a lot of subclinical disease. It is managed by regular spore monitoring, zinc in water troughs and fungicide sprays, which work quite well.
- **Parasites:** Workshop members had widely varying regimes, from regular 6-weekly drenches of young stock from weaning onwards with a triple drench, to only drenching "when they hear them coughing". There was minimal drenching of adult deer reported.

Raroa Red Deer

The Carter family's well-known Raroa Red Deer Stud was the third of the three host farms for the AP National Workshop, with sessions on feeding, environment, genetics and reproduction held in the saleyards there. Pictured below are long-serving Raroa manager Bill Robinson (left), who has recently retired, and his successor, Glen Gregory.

Nutrition workshop

The workshop held in the sale venue at Raroa focused on specialist forages that have a key role in feeding hinds and fawns in a dry summer environment and into autumn. Transferring feed into these high-risk seasons is achieved by shifting supplements through crops.

Raroa Red Deer Stud has developed clear objectives to maximise the investment in crops that are the right choice for the right environment, working in with pasture renewal options.

Reducing N losses

Animal nutritionist, Glenn Judson (Agricom, based at Lincoln) introduced features of Ecotain® Environmental Plantain. While cautioning that the crop was still vulnerable to long dry summers, he said it recovered very quickly from the dry and does well in autumn and early winter and again in spring and summer with adequate moisture. Its advantage beyond strategic nutrition for deer is based on combating nitrate leaching.

He noted that currently Overseer did not recognise Ecotain but hoped that would change in the near future. Ecotain combines four modes of action, he explained.

Dilution: Ecotain increases the volume of urine animals produce, which means the N being excreted is in a more dilute form. This results in a reduced N load in the urine patch.

Reduction: Compared with ryegrass, Ecotain reduces the amount of dietary N excreted in urine.

Delay: In urine patches created by animals grazing Ecotain, the conversion from ammonium to nitrate in the soil is delayed. Slower conversion allows plants a greater opportunity to uptake N, significantly reducing the potential for leaching.

Restriction: Ecotain plants in the soil reduce nitrification,

likely through the effect of a biological nitrification inhibitor.

Later in the workshop, considering N capture, Judson suggested that under-sowing brassicas with Ecotain could also add considerably to the sustainability and value of that cropping system.

Chicory, on the other hand, needs good management and could be relied on as a two-year crop. Judson said it is particularly good for weaner deer growth during late spring and summer, either as single species (sown at 7kg/ha) or at 2kg/ha in a pasture mix.

He said there are grazing challenges if mixing chicory with ryegrass and clover (red and/or white). While a good mix, there is a risk of damage to chicory when grazed during cool and/or wet periods when the chicory is much less active. In summer dry conditions, chicory is safer if there are facial eczema risks.

Red clover risk?

One participant asked about the risk to mating performance for hinds from grazing red clover. The general consensus was that there seems to be no impact on hind conception success. David Stevens (AgResearch Invermay) confirmed hinds did not respond to phytoestrogens from red clover. The general view was that it was fine, and people need not be alarmed by signs of red urine from deer grazing red clover-dominant swards.

The workshop group recognised that while red clover is a very strong productive input, particularly for lactation or late finishing (Relish seemed to be a favoured cultivar for Waikato), feed planning needed to allow for its winter dormancy. Not being able to graze it over this period had the potential to create a winter feed gap in the system (easily rectified), but this was more than compensated for by its high performance in the growth seasons.

Pasja discussion

The workshop also discussed Pasja (**pggwrightsonseeds.com/Crops/Brassicas/Turnip/Pasja-II**). Discussion concluded it was a good option for lactating hinds in later summer, sown any time from early October to mid-December with a grazing period 40–70 days from sowing. The crop, if managed well, supported re-grazing, as it is a very efficient regrowth brassica. Judson advised that in summer dry country, earlier planting captured moisture well and delivered a high-performing summer crop when most needed. With rapid growth to the 40–45 days first graze, good planning and substantial flexibility are possible.

The workshop concluded that in all these options the key feature is to clearly understand the crop's primary use in relation to the animal system demands, and making sowing and management decisions accordingly. Further discussion followed about the cost-effective option of anticipating the feed pinch period and adding palm kernel expeller (PKE) to fill the hole alone or in combination with the fodder crop.

Costs discussed

Before the group headed outside in the rain to see a Raphno crop first-hand, the workshop covered cost options and how best to use the flexibility over time with focused use and management of strategic crops.

The group agreed that good returns via targeted summer crop supplementation ensured good weaner weights and a marked advantage in mating performance and conception rates. It also performed an important rotation role in a renovation programme.

The subject experts suggested (with some assumptions and the help of the DINZ feed tools) that in this region maize as silage would cost 3.6c/MJME compared with 3.3c/MJME for PKE.

A good summer crop would be much more cost effective, however. A cost exercise for a leafy brassica option as a summer feed was ~$1200 /ha to establish and, if a 9-tonnes dry matter/hectare crop was achieved, its value compared very well at just 1.1c/MJME.

The group again reinforced that a later sowing date and later grazing introduction made it more challenging to get good yields and utilisation. A rape crop would be available even later than a leafy brassica. The experts said farmers contemplating this pathway need to have a clear plan for planting date and planned best utilisation and seek sound agronomic advice.

Environmental limitations?

The discussion also noted the potential for future limits on cropping under the One Plan currently being negotiated in Waikato. It was suggested that an all-grass system for growing and breeding deer would not be sustainable at economic stocking rates in a dry summer. Participants observed that maize and grass silage, and PKE, would continue to be important drought options if strategic cropping was no longer available.

That lead to a lively discussion about potential disruption if winter and summer cropping was prohibited or restricted. Impacts raised included using current farmed livestock (dairy, deer, beef) as a discussion model. Potential outcomes from restrictions suggested during discussion included:

- reduced stocking rates on grass alone
- new sources of supplements to extend spring and summer feed flushes
- increased pasture renewal rates
- potential feed pads and grow-and-cart feed systems with attendant effluent capture and disposal challenges
- high stocking intensity (behavioural and social stress) with greater public reaction to cropping and generation of mud
- high cost structure and new financing required for winter pads and effluent capture
- potentially more strategic N use
- palm kernel as a key supplement. ■

Thanks for coming!

As he wrapped up another successful Advance Party National Workshop, P2P manager Innes Moffat told attendees there was still plenty to come from the programme. Although PGP funding will finish in 2022, he said DINZ will be working hard to continue the successful initiatives in the post-Primary Growth Partnership era.

"Advance Parties have been working very well for the past six years and there are still new groups being formed."

He challenged attendees to take what they had learnt from being in their APs and share it with their local deer farming communities. ■

Putting breeding values to the test in demanding environment

by Phil Stewart, *Deer Industry News* Editor

If you wanted to put some deer genetics to the test in a real-world situation, David and Alison Seifert's Miranui Farm north of Raetihi in the central North Island is a pretty good place to start.

THE 131 EFFECTIVE hectare property is cool and high, ranging from 550 up to 620 metres above sea level on a mix of flats, easy and steep hill. Growth on some of the unimproved browntop pastures bottoms out at about 3kg dry matter/hectare/day in mid-winter. The improved pastures on the finishing paddocks chug along at about 12kg/day in the coldest months, peaking at about 70kg in early summer. "The deer aren't pampered here," David Seifert says, with some understatement. He runs an "All Grass" system.

Seifert, a veterinarian, runs the farm in tandem with Roger Feickert, the conveyor manager and farm rep for his vet practice. It's predominantly a deer breeding and finishing operation, currently carrying 320 hinds including R2s, plus 122 R1 hinds and 141 R1 stags (2018 figures) and 8 sire stags. There are also about 200 sheep and a handful of cattle, used mainly to tidy up pasture.

The Seiferts have been on Miranui Farm since 1986. They started with 80 hectares and added a further 60 hectares of hills five years ago. Virtually the entire property is deer fenced. Rainfall is a reasonably generous 1600mm, although it can dry out in February and March. The dry came a little earlier than usual last season, leaving them coping with a "green drought" and scrambling to keep hind body condition scores up.

They grow several hectares of swedes plus kale and make anywhere from 50 to 150 bales of baleage, depending on the season. Maize is also used during key periods, along with carrots.

The entire herd is red deer, with the hinds a compact and efficient 120kg, mated to high-BV red stags. It's not the sort of country that allows early finishing, but about 60 percent of the finishers are normally gone by mid-December with carcass weights having gone as high as a very respectable 60kg at one point. The aim is to get a further 30 percent away by the end of January and the balance gone over the following few months.

The Seiferts have been focusing on genetic improvement in their herd since they started with deer 40 years ago. Like many, they are mainly motivated by the Deer Select breeding value for weight at 12 months (W12eBV). David says the arrival of Deer Select – he buys stags off Deer Select breeder Ruapehu Red Deer – has made a huge difference to genetic improvement in their herd. "I used to be pretty pleased with a stag that had a W12eBV of +12kg, but my top sire is now +29kg and all but one are +18kg or better."

He maintains a high replacement rate in his hind herd to accelerate genetic progress, currently carrying 82 R2 hinds. The R2 hinds are mated with the best spikers.

The impact of his breeding programme was revealed more clearly five years ago when he bought the additional 60 hectares and a mob of 140 hinds that didn't have the same genetics. "We really noticed that our average carcass weights dropped back for a while due to those hinds not having such good growth genetics. They are pretty much all through the system now and won't be mated again."

Alison and David Seifert.

Seifert is interested in the impact of good genetics on productivity and was pleased to volunteer to be part of a breeding value proof trial currently under way on three farms throughout New Zealand (the other two are in Canterbury and Southland).

It's a simple but compelling exercise. Roughly equal numbers of hinds are mated to sires that have W12eBVs about 10kg apart. The progeny will be run together and the composition of the hind groups is similar in terms of genetic merit for that growth trait. The aim is to track the performance of the progeny from the higher and lower BV sires to see how closely their actual growth to 12 months is matched to their breeding values.

While conception dates won't be recorded through fetal ageing, the average across each group of progeny should be similar, making them comparable. It is the average performance of the higher and lower BV groups that will be compared.

The aim is to show that superior genetics has a positive and significant impact on productivity in a commercial setting.

The three sires Seifert has chosen for the exercise aren't the perfect 10kg apart on the W12eBV scale, but with the two "lesser" animals at +20 and +21kg and the other at +29kg, there is still plenty of daylight between them to get meaningful results.

He has used one-third each of R3 and R4 hinds with the +29kg sire (about 40 in total) and the remaining 60 or so R3 and R4 hinds to the +20kg and +21kg sires. They will be set stocked either in age groups or all as one mob, depending on paddock availability.

It was a challenging autumn this year. "We were feeding out right through March and April, using two 700kg bales of baleage a day for our mixed aged hinds at one stage. We were also feeding out some maize until the stags finally got too stroppy."

About 40 of the farm's hinds were not quite up to the ideal body condition score following mating and some may have been prevented from getting a decent crack at the supplement on offer. By mid-July Seifert was still preferentially feeding a smaller group

of hinds to help them catch up. "I want to be sure they're all at a good weight by fawning so there are no lighter ones holding their fawns back."

In any event, mixed-age scanning percentages were 92 percent, down a bit on his target 97 percent but understandable given the conditions and still giving enough numbers to provide a useful comparison between the groups of progeny. Seifert said the progeny from both trial groups will be run in the same conditions. Fawns will be DNA sampled at weaning to confirm sire parentage, and will be given number tags to match their NAIT ID, for ease of identification.

The superior stag was one of two purchased last December by Seifert. He's encouraged enough by its high breeding value to also use the DNA test to identify male progeny that might be retained as spikers, which he will use over his R2 hinds. "I've just been picking the heaviest spikers from the first draft until now, but they might have been big because they were born earlier or their mothers lactated well. This time I'll be using breeding values to make the choice."

Despite the extra work to ensure a useful on-farm trial to demonstrate the impact of breeding values, Seifert says it will be well worth the effort – not just for him but for others wanting to see the proof that using superior breeding values pays dividends in a commercial situation.

The first results from the three breeding value proof trials will start to appear at weaning next year when the first weights are taken.

We will feature the other two breeding value proof trial farms in future issues of *Deer Industry News*.

- For further information: **deernz.org/deerselect**

David Seifert on the farm with grandson George and heading dog Sam.

Environment group feedback

The Deer Industry Environment Groups are starting to pick up momentum, with 12 operating at last count. If the following feedback from a group member is any indication, they are also having a positive effect for people who have been wondering how to get started on their journey to a Farm Environment Plan.

I WANT TO thank the deer industry for the Deer Industry Environmental Group I was part of recently.

Over the past six months I have been part of a group of five deer farmers in Central Hawke's Bay, led by the wonderful Emma Buchanan. I am so grateful to have been part of this group as it has helped me hugely in dealing with some Plan Change 6 waterway issues. We are a small deer farm facing big challenges with regards to the many waterways running through the property and before being part of the environmental group I was at a loss as to where to even start and unsure who to turn to.

The group has been invaluable to me. To have had Emma's wealth of knowledge to tap into has been fabulous. She was so informative and very happy to share all she knew, and we were lucky to have had her. Then to have the other farmers visit the farm and make most helpful suggestions has helped me no end. I have learnt so much and now go forward with confidence and a great plan regarding the waterways. The Hawke's Bay Regional Council has visited the farm and my plan was very well received.

I'm proud to be part of the deer industry in New Zealand and proud to have an Environmental Plan. Thanks very much for the help you give your farmers. Keep up the great work!

– Joanne Scholfield, Waituki Farm Ltd, Ashcott

Agri-Women's Development Trust: Escalator programme

Escalator is an established leadership and governance programme for women involved in primary industries and rural communities. It equips them with the tools, confidence and support they need to successfully lead and govern in their chosen fields.

Participants are engaged and challenged by cutting-edge content delivered by leading experts in a highly-supportive environment of personalised learning.

The coaching, support and mentoring participants receive from AWDT, industry leaders and each other put Escalator in a class of its own. Each year 14 women are selected for the programme which begins in February and ends in November.

Applications for Escalator 2020 close on 13 September 2019.

For further information:
contact@awdt.org.nz, phone 06 375 8180 or visit awdt.org.nz/programmes/escalator

Sizzling summer in Europe for Cervena

It's summer in Europe and the inhabitants have been loving the early smells of Cervena® sizzling on the hotplates in promotional activity by the venison exporters and DINZ.

One of Campbell's highlights was working with European chef group JRE at this event in Liege, Belgium, where the team worked with BBQ manufacturer OFYR and were also present at the group's AGM. "This is an excellent opportunity to meet some of Europe's top chefs in one day, all working in high-end establishments," says Campbell.

DINZ CONSULTANT CHEF Shannon Campbell has been busy working his way through an itinerary of Summer Cervena presentations in the Benelux nations, Germany and Sweden (see *Deer Industry News*, April/May 2019).

He says he has noticed a lot more brand recognition in the Benelux region this year as a result of the past three years' activity.

"Many chefs are already aware of the produce when we are at certain fairs or events there. We are just starting out on building this same recognition in Germany," he says.

Building closer relationships with partners in Europe and engaging with them in new and interesting forms of promotion has been the most positive element of the activity from Campbell's perspective.

He has also noticed the major trend of partners and suppliers looking for new and innovative ways to provide services and information to their customers.

"Learning how each of the partners works and doing this within their individual parameters has allowed us to cross-pollinate ideas for other promotional work," he says.

"Organising events gives them a chance to get close to their customers; it provides a memorable and enjoyable personal experience which is then associated with the company and this in turn can be revalued in social media content," he says.

The sustainability messaging is becoming more focused and intense, he has observed.

"Any information that can support this message is now of vital importance. I only see this as snowballing in the next years."

Early indications suggest all the Summer Cervena activity has been going well, though actual figures won't be available until later in the year, DINZ Venison Marketing Manager Nick Taylor reports.

"It's been good to see a great range of Cervena products being promoted through the European summer," he says, adding DINZ has been supporting company activities with overarching promotional work.

Just four years ago there was no market at all for this product in Europe over the summer period.

"While the volume sold to date has been modest, it has created an opportunity over a period when venison hasn't traditionally been sold."

Slow, but steady progress for Alliance and Bimpex Meat

Slow and steady progress has been made in Europe by Alliance, one of the venison exporters participating in the P2P Summer Cervena programme. It has been working closely with its importer in Belgium, Bimpex Meat.

Jeroen Demolie, who is in charge of the Cervena programme for the importer, reports Bimpex Meat received the first boxes from the Cervena programme during the summer of 2016.

He explains it needed several promotional programmes to get people moving towards eating Cervena during summer.

"Some clients were even hesitant about whether they could serve Cervena out of the hunting season," he says, adding it took several further tastings to finally convince the first client, the wholesaler Metro, to give it a try. The first mixed pallet with Cervena tenderloins, strips, racks and legs was sold in May 2016.

Consistent promotion over that year led to two other wholesalers signing up with Bimpex Meat for the 2017 season. Then, in 2018, a large group of butchers that were supplied through one of Bimpex's distributors were added, resulting in an increase of Cervena on the shelves over summer, says Demolie.

This year has been difficult for venison in general due to the very warm temperatures during the last game season, which decreased consumption. However, to date, Demolie has managed

Shannon Campbell, pictured left addressing the guests, put Cervena in front of Metro customers in Belgium in March in activity for Alliance/ Duncan NZ importer/distributor Bimpex.

Campbell has been working with premier foodservice distributor Delta in Germany at events in restaurants like this in Berlin, Germany. "With the customers being now a little more fickle and less loyal to their suppliers, it is important to find ways to build up close and personal relationships with them. That is why organising events like this for companies like Delta where they can invite their customers is so important," says Campbell.

to increase this year's summer sales of chilled Cervena using promotional initiatives, including a continuation of the campaigns with Metro/Makro.

"We also held a Euro-promotion in six Makro supermarkets. In June, we had a food pairing evening for butchers and we have also participated with Cervena in a three evening summer programme attended by over 600 butchers," he explains.

"That was supported with DINZ activity, including articles in *Culinair Ambiance* with a recipe from celebrity two Michelin-Star chef Villa Lorraine, while in *Cook Magazine* we had a recipe from Frank Fol," says Demolie.

As the 2019 programme starts to wind down – it will finish at the end of August – work is now looking towards 2020 for the Alliance/Bimpex Meat team. Demolie has a new client starting with the Cervena programme in August and has invited two other interested customers for a tasting session next month to start their preparations for the 2020 summer season.

"While we have had our challenges, continued promotion is still required to grow awareness of Cervena and to prompt awareness in people who have bought in previous years to continue with our product in seasons to come," says Alliance Sales Manager Katrina Allan. ■

Jeroen Demolie (right) working the crowd this year during a presentation to Bimpex Meat customers with DINZ Executive Chef Graham Brown.

Discovering NZ venison

A delegation of leading international chefs gained a first-hand look at New Zealand venison as part of Alliance Group's *Pure South Discovery Series* recently.

THE GROUP, FROM the United Kingdom, Hong Kong, Singapore and New Zealand, visited Minaret Station near Wanaka and Fairlight Station in northern Southland in May.

Expatriate New Zealander Paul Greening, who is revolutionising the Asian food scene in London, Hong Kong's Anthony Burd and up-and-coming Londoner John Skotidas, were among the international chefs attending the tour.

Shane Kingston, General Manager Sales at Alliance Group, said the tour offered a unique insight into New Zealand's venison products and helped connect chefs with farmer producers.

"Our aim is to build the international awareness of New Zealand venison and demonstrate it is very much a product of the unique land it is raised on. This tour was a great way to tell this story and highlight our free-range grass-fed natural farming systems.

"The tour has also created some real advocates for our venison, who, after visiting our farms and meeting our farmers, will be able to champion the story of our land, people and environment.

"The Pure South Discovery Series is a vital immersive and experiential event to ensure we have a real point of difference in the marketplace and we are looking forward to hosting more chefs next year."

Alliance Group is investing in the global food service sector to capture greater market value for the benefit of farmer shareholders, he says. ■

- Article supplied.

Some of the visiting chefs admire the view at Fairlight Station. From left: Alex Ensor (NZ), Francois Mermilliod (Singapore), Anthony Burd (Hong Kong), Stuart Duff (UK), Andy Ritchie (UK) and John Skotidas (UK).

Numbers stack up for velvet expansion

by Phil Stewart, *Deer Industry News* Editor

A third generation is breathing new energy into a traditional deer operation in South Canterbury. At a well-attended P2P South Canterbury Velvet Advance Party Regional Workshop on 23 July at Albury, inland from Pleasant Point, about 75 registered attendees looked at the plans of Sam and Annabelle Bray to shift the balance of their farm system firmly away from dairy support and towards velvet production.

THE WORKSHOP WAS led by the AP's facilitator, Janet Gregory and hosted by the South Canterbury/North Otago Branch of the New Zealand Deer Farmers' Association.

The velvetting expansion is an ambitious, long-term project and the workshop had plenty of useful context provided from the financial and environmental perspectives, as well as a farm tour, to inform their discussions about the couple's plans.

Part of the large crowd of attendees at the Regional Workshop.

Deer farming at the 318 hectare Glendonald farm (268ha effective, 150ha deer fenced) goes back a couple of generations to Annabelle's grandfather, John Anderson. He started developing the traditional grain property on rolling country initially into sheep, before starting to farm deer in the 1970s as one of the first deer farm licences and across red, fallow and wapiti. Annabelle's parents, Bill and Di Anderson, carried on with the deer, building up numbers until about 2000 when they started to phase them out in favour of dairy grazing and sheep.

Sam and Annabelle came to the farm in 2014. At about the same time the family bought the nearby Airdeens farm (181 effective hectares, not currently deer fenced).

With the return of the young couple came a fresh enthusiasm for deer, specifically velvetting. Of the 150 hectares of deer fencing on Glendonald, 80 hectares is currently used for running stags. About 40 hectares needs the deer fencing rebuilt or repaired.

The velvetting herd stands at 330, including 70 R2s bought as weaners, half of which will be culled for venison after velvetting. Sam Bray said their cutoff is 2.5kg for 2-year-olds and the total herd is averaging 6.2kg/stag (including regrowth). All the stags are bought in from a local breeder and they feature good velvet genetics from Arawata and Netherdale.

The deer shed dates back to the 1970s, with modifications in the 1990s and in 2017, when the velvetting area was brought into line with current standards. Bray said the shed is not ideally laid out, especially given he velvets on his own, so stock flow is an issue. A replacement for the shed is part of the longer-term planning.

Farm system

It's a complex livestock system, with 6,400 stock units wintered overall at 14.2su/ha. Dairy support provides half the current farm income. Of the in-calf heifers, half go home at the end of May, with the rest staying until the end of winter. Beef breeding and finishing, including some trading stock in the right conditions, provides a further 11 percent of net income and lamb trading (1,300 head over the two farms), 14 percent. The velvet stags earn 24 percent of the net income.

Bray said autumn is their crunch time, when the farms are at maximum capacity, running about 20su/ha. "This year has been very dry and May couldn't come soon enough for us to start unloading stock. We carry a lot of feed for that period in bales, in the pits and in crops."

Average rainfall in the district is in the low 700s, but this is variable. Bray said last year they received more than 900mm, but the first half of 2019 had seen only 300mm fall.

Crops and pastures

Over the two properties, about 8 tonnes of dry matter per hectare is grown each year.

Fodder beet (Feldherr) is grown for the stags in winter. Bray said this year's crop was a bit of a disaster thanks to heavy rain just after sowing. "We only got about 6 tonnes per hectare – normally we get 16–18 tonnes. In retrospect we should have sprayed it out and started again."

Kale is grown for the sheep and cattle on both properties for winter, with grazing maize for R2 heifers and some rape grown for

Three generations in deer - from left: Di Anderson, Maggie Bray (5), Bill Anderson, Annabelle Bray with Toby Bray (6 months) and Sam Bray with Alice Bray (3). Photo courtesy Sam Bray.

the calves in summer. Kale is usually followed by maize and then an annual grass or oats, then maize and an annual grass or ryecorn, followed by permanent grass.

Newly established permanent pastures are usually a mix of perennial ryegrass, cocksfoot, timothy, red and white clover, and chicory. Bray said the clover provides a fair bit of their nitrogen requirements. (N losses on the farms are 23–24kg/ha.)

He said the stags respond well to grain after the roar to quickly put condition back on and he likes to get a head start in spring, bringing up stag condition well in time for button drop.

On the newly purchased Airdeens block they first prioritised fertiliser and regrassing, before moving on to fencing and water.

Enterprise comparison

Farm consultant Stu Bayliss of Tambo NZ Ltd provided some useful financial and performance context for the family's farm enterprise. It was quickly apparent that the velvet business is the most profitable and the figures for a velvet expansion looked promising.

In terms of feed consumed, velvet currently provides 24 percent of the income but uses just 15 percent of the feed. Beef (11% of income, 16% feed) and dairy support (51% income, 57% feed) use a bit more than their share, while the trading lambs (14% income, 11% feed) do well. (Bayliss noted that the beef cattle figure is slightly misleading because they are mopping up poorer feed from marginal country that wouldn't be used by other stock classes.)

In terms of per-hectare return, the velvet side stands head and shoulders above the others (see table in next column):

Enterprise	Per-hectare cash surplus adjusted for capital*
Beef	$529
Dairy support	$686
Lamb trading	$802
Velvet	$1,304

*** Value of capital at 5%**

These figures for velvet are based on a stag purchase price of $1500/head and net velvet return of $117/kg. A serious drop in velvet prices would put a big dent in that velvet return per hectare. On the other hand, a drop in the cost of stags would see margins lift – for example at current velvet prices, stags purchased at $1,000 a head would lift per-hectare returns to $1,679.

Velvetting stags enjoy the last of the fodder beet at Glendonald.

continued on page 18

Velvet expansion: continued

Expand the velvet business?

With such strong returns from velvet, Sam and Annabelle, Bill and Di have seen an opportunity to build that side of the business and the purchase of the second property (Airdeens) has given them the scope to do just that.

Ultimately they would like to run a velvet breeding herd of 250 hinds on Glendonald, and 500 velvetting stags on Airdeens (which currently has no deer fencing to speak of). Breeding their own replacements will give them more control over their velvet herd, although that will of course require more farm area to be devoted to their hinds.

It's going to take a big investment of time and money – $1.218m to be precise – but for practical purposes it will need to be phased.

In the short term they will repair or replace the 3km of deer fencing on the 40 hectares of deer paddocks at Glendonald that are not currently used for deer. That should be done in the next two years. Sam has priced out new fencing at $12.50/metre. This raised a few eyebrows among attendees, and for planning purposes Stu Bayliss has suggested a more conservative $15/metre.

On the new Airdeens block all paddocks would be deer fenced and new handling facilities built so stags could be velvetted there. The planning assumes that 85 percent of male progeny would be taken through to two years, with 65 percent of R3s retained as mixed-age stags. The dairy heifer numbers would gradually be dropped from 475 to 250 to make way for the hinds and increased velvetting herd.

The capital development budget for the expansion is as follows:

Item	Budget
Fencing	$202,500
Airdeens handling facilities	$120,000
Purchase 250 MA hinds	$312,500
Purchase 110 R1 hinds	$60,500
Purchase 8 sires	$120,000
Purchase 375 velvet stags (R1, R2 and R3)	$402,500
Total	**$1,218,000**

Projected income for the reshaped farm business would lift by 14.5 percent to $944,440pa. The contribution of beef and lamb would stay about the same, but income from dairy support would fall in favour of velvet (42 percent of total returns) and venison (13 percent).

Bayliss said the change in system would affect animal health costs and crop requirements, but the overall increase in farm working expenses was fairly modest at an extra $4,537 a year, mainly down to additional stock costs.

Taking the cost of borrowings into account, the swing to more velvet would increase the cash surplus by $58,110/year. The return on investment would be a healthy 10 percent and the additional debt would take 14 years to repay (assuming an average 5% cost of funds). More importantly, the business would see an improvement in the value of its farm infrastructure and acquisition of a more valuable asset base in its stock.

The cash surplus per hectare for the expanded breeding and producing velvet operation ($1,311) would be almost identical to the current surplus, although this would of course be applied over a greater area than before.

Bayliss said a sensitivity analysis based on venison and velvet prices showed that the breakeven price for velvet on the investment was $102/kg. A fluctuating venison schedule wouldn't have much impact on farm surpluses, but velvet was a different matter. For example, if velvet prices sunk by $40/kg, that would shave $142,000 off the farm cash surplus. The seasonal average last year being ~$125/kg gives some confidence in the projected expansion, however.

Another variable that could affect the viability of the velvet expansion is the success of the breeding programme. Bayliss said the target was for 75 stags to be retained from each birth year, which allowed a reasonable amount of headroom for culling or poor reproductive performance. He noted that every stag surplus to requirements could be sold for a potential $1,500 return. However culls that took the retention tally below the target 75 stags would need to be replaced by bought-in stags – a cost of $1,500/head less the venison value of the culls.

It was an ambitious transition and needed careful planning to ensure targets were met. Bayliss said the modelling used was fairly conservative. For example, the amount budgeted for buying hinds would allow for some high-quality genetics. In addition, it was likely genetic improvement would lift the average weights above the current 6.2kg allowed in the financial model. Bray said their weights had lifted 300–400g on their bought-in stags in the latest season, showing the impact of good genetics.

The new system shouldn't require any additional labour,

Workshop visitors had a good look at both properties.

Guest speakers (from left) Pip Croskery, Stu Bayliss and Nicole Phillips added financial planning and environmental perspectives.

although Bray admitted the current labour supply was pretty tight. "It's just me full time. Bill [Anderson] who does most of the machine work is probably about a 0.6."

Feedback from workshop

Following a farm tour, the workshop attendees broke into four groups to brainstorm aspects of the family's velvet expansion plans. This was their feedback:

Genetics

- Have clear breeding objectives.
- Understand your hinds and consider culling the poorer ones or using them to breed venison if they aren't delivering the velvet production you want.
- Getting hold of superior hinds might be challenging, given the current surge in interest in velvetting.
- If acquiring animals quickly, you will be competing with other buyers and may be buying someone else's culls, which stalls genetic improvement.
- AI and embryo transfer allows fast progress, but can complicate the system.
- Do your homework on sires and consider parentage testing to track the performance of individuals.

Feeding

- Be aware of the changed patterns of feed demand, especially during lactation so that you can grow out young stock properly.
- Velvet production and the seasonal feed demands of stags suit this area.

Logistics

- The low labour requirement suits this property.
- It is important to maintain some flexibility in the system to respond to changing conditions (climate, markets, etc).

Health and welfare

- Be careful with biosecurity when buying in stock (e.g., Johne's disease).
- If buying in stags from other mobs, this can disrupt social patterns and lead to fighting.

Finance

- The shift to more velvet targets better returns.
- The change puts a big demand on capital and infrastructure development, which should be done gradually as indicated.
- The budget for fencing may be light, and tracks and lanes also need to be allowed for.
- Although dairy grazing yields less than velvet, it offers good cash flow and doesn't require the capital that velvet production does.

Economic overview: What bankers want

Pip Croskery, Agribusiness Manager with Westpac Timaru, gave some useful insights into the state of the market for lending and borrowing.

She said the Reserve Bank (RBNZ) views agriculture as a key risk area because of its high debt loading. Total agricultural debt is $61.4bn, of which $40bn is for dairy. Total agricultural debt 10 years ago was just $25bn.

She noted that RBNZ is keen to reduce farm debt levels to mitigate the risks from commodity market volatility and declining asset values, with pressure being applied to set up structured principal repayments. Banks were also going to be required to hold more capital, which could put upward pressure on lending rates and downward pressure on deposit rates.

While banks might be wanting to reduce their exposure to the dairy sector, Croskery said they still see deer as having growth potential. Banks were also losing their appetite for non-performing loans, which could increase pressures to sell a farm or refinance it in some cases.

continued on page 20

Velvet expansion: continued

Croskery said the sector was hoping RBNZ would not require banks to hold as much capital as the 16 percent of risk-weighted assets they were indicating and noted that this was a very strong measure compared with other countries.

Banks set their own limits around lending, she explained. For example, they preferred equity (assets minus liabilities) to be at least 40 percent. "We like farm working expenses to be less than 50–60 percent of gross farm income," she added.

"Cash is king. You need to keep an eye on metrics such as Cash Available for Debt Servicing because this affects your risk rating and interest rates."

For situations such as the Glendonald/Airdeens proposal for a major change in farm system, she said banks needed to have details such as capital requirements for livestock purchases, new plant and equipment or infrastructure, as well as seasonal finance needs with cashflow projections for at least two years.

"A system change can take three-to-five years and usually there is no profit in the first two years, so it's important to understand what's being done."

She said that even if a system change didn't require any extra capital, it was useful for a bank to know what was happening because it could change your risk profile.

"It's a good idea to prioritise spending as well and to be sure your cashflow is going to support any capital expenditure repayments."

Croskery urged farmers to keep up good lines of communication with their banks and also keep a close watch on accounts through the year so that any significant variations from budget could be spotted early. "Banks like to have access to your year-end accounts more promptly than they used to, six-to-nine months after balance date. Ask your rural professionals for help if necessary."

Managing environmental risk

Nicole Phillips (Irricon) and **Helen Risk** (ECan Land Management and Biodiversity Adviser) discussed the environmental risks on the properties.

Risk said Agribase data for the Orari-Temuka-Opihi-Pareora (OTOP) zone from 2016 showed there are 81 deer farms larger than 50 hectares that were in high-risk areas for phosphorus (P) loss in that water zone, including the Glendonald and Airdeens farms. Mitigations against P loss and thresholds for consenting requirements were to be found in proposals for Land and Water Regional Plan Changes 5 and 7. Submissions on proposed Plan Change 7 close on 13 September 2019.

ECan's Helen Risk talks about phosphorus loss issues.

She said the OTOP zone committee considers the risks from large areas of winter grazing and had recommended any farm with more than 20 hectares of winter feeding for cattle and/or deer would require a consent and for their Farm Environment Plan (FEP) to be audited.

Sediment ponds like these are helping mitigate sediment and P loss.

"Anyone can submit on the proposal*, but it can be a good idea to do this as an association," she said.

She said farms within P risk areas that fell short of the threshold for needing a consent would still need a Farm Environment Plan or management plan, which noted things like critical source areas and mitigations planned.

Sam and Annabelle have completed an FEP and nutrient budget working with Nicole Phillips. "Having Nicole's help made it a lot easier," Bray said. "We may well be needing a consent under the proposed new [Plan Change 7] rules."

He said they were using a series of linked sediment ponds to help mitigate runoff and P loss on the currently deer-fenced part of Glendonald farm.

Nicole Phillips explained that the trigger for requiring a consent to farm had been Overseer-based nitrogen losses of 20kg/ha/year, but that had been replaced by a level of 50 hectares or more of irrigation or 10 percent or more of the farm used for winter grazing.

She said the proposed changes for the OTOP zone took things further by identifying the P risk zones, which encompassed parts of both the Glendonald and Airdeens farms. For farms in these zones, the proposed changes move away from the earlier 10 percent area calculation to a 20-hectare threshold, applying to both cattle and deer.

The 10 percent would still apply if you're not in a P risk area, Phillips said. "For people outside P risk areas with less than 10 percent in winter grazing, all that would required is an FEP that details mitigations against loss of P, sediments and microbial contaminants. That's where sediment traps come in."

Phillips emphasised that the proposed new rules for the OTOP zone had been notified only a few days earlier and urged farmers to seek advice about how the rules could affect them.

* The South Canterbury/North Otago DFA, with assistance from DINZ, will be submitting on the plan changes. Contact Branch Chair Graham Peck if you want to have a say: empeckfarms@gmail.com, 03 614 8006/021 022 18948 ■

First North Island Deer Tech Expo held in Feilding

by Phil Stewart, *Deer Industry News* Editor

More than 80 deer farmers made the journey to Feilding on 28 June for the first Deer Tech Expo to be held in the North Island. Manfield Stadium, which reverberates with everything from the genteel clip-clop of equestrian events to the throbbing and growling of motorsports, was an ideal venue with plenty of room for exhibitors and presenters. The following is a small sampling of the high-quality information that was available to visitors.

Find out what's going on with your nutrients

While you might be feeding 10 stock units per hectare (su/ha) above ground, you need to feed the equivalent of 250 su/ha beneath it. Eurofins soil scientist Dr Gordon Rajendram was, of course, talking about the multitudes of soil microbes essential to soil, plant and animal health.

Rajendram said 13 elements were needed for plant growth, not just nitrogen (N), phosphorus (P) and potassium (K). A further three elements (cobalt, selenium and iodine) were essential for animal health.

He was advocating for the use of fine-grind nutrients blended in suspension as the most effective way to deliver the right elements in the right quantities. He said the importance of soil and herbage testing can't be overstated. At less than 1 percent of your total fertiliser costs, it is a cost-effective investment. All tests give you information, but some that are not done correctly and regularly are anion storage capacity, or ASC (the P and S retention test), cation exchange capacity (estimates soil's ability to attract, retain and exchange cation elements) and base saturation, which measures the ratio of four key nutrients (cations) to each other.

Rajendram said P used to be the main focus for New Zealand soil fertility, but that has changed. N is now seen as the most limiting nutrient – in combination with soil temperature and moisture.

Gordon Rajendram: N is now seen as the most limiting nutrient.

"It was good to have the opportunity to chat with stall holders and see what opportunities there were, particularly in the technical space."

– Sue Hewitt, Hawke's Bay

What farmers don't realise is that there is a lot happening below ground. Soil leaching, which in general can take away $160 worth of nutrients per hectare per year, mainly happens between April and October, he said, hence the importance of soil and herbage tests to see what is going on. He also gave the example of a Northland farm that actually had a very low ASC value but was nonetheless applying heavy doses of soluble P. "Most of it was going straight out to sea. Once we did the testing for them we saved them hundreds of thousands in wasted fertiliser."

He said dairy farms probably need only about 13kg/ha of P per year, but more than 70kg/ha is sometimes applied, leading to big wastage. Likewise, a farm applying 400kg/ha of N may be losing a quarter of that through leaching, at a cost of more than $100 a hectare.

- Dr Gordon Rajendram is Eurofins Agri-testing soil scientist and technical manager. Eurofins Agri-Testing, formerly known as Soil Fertility Service, was originally set up by the then Ministry of Agriculture and Fisheries in the 1980s to help the farmers of New Zealand.

Have we got a deal for you…

It is, said DINZ Passion2Profit Environment Project Manager Phil McKenzie, the "deal of the century". He was referring, of course to the free participation in Deer Industry Environment Groups (DIEG) being offered – and eagerly accepted – as part of the P2P programme. Twelve groups of between five and eight are up and running so far.

The objective of each group is to have members engaged in

continued on page 22

Tech expo: continued

the development of a tailored Farm Environment Plan (FEP) for their property, that will satisfy local authority requirements. With farmers paying up to $15,000 to have an FEP developed by professional consultants, the P2P programme with zero cost is exceptionally good value.

McKenzie said farmers shouldn't be frightened of the process. "You'd be surprised how much doing an FEP integrates with the rest of your business." He added that being involved in a group to voluntarily create FEPs gives individuals more credibility and engagement with regional councils and an opportunity to have input into local environmental policies.

Environmental consultant Emma Buchanan is facilitator for four DIEGs and has helped develop 300 FEPs for clients in the Tukituki catchment alone. She noted that the FEPs being developed by deer farmers would meet most local regional council requirements. She said councils liked it when farmers took the initiative and voluntarily did FEPs.

Sue Hewitt, who farms in Hawke's Bay, said being part of a DIEG had been a useful catalyst to getting a nutrient budget done for the property.

McKenzie reminded visitors that plenty of resources are available for those keen on getting started with their own FEP. These include the Environmental Management Code of Practice, currently being reviewed for a reference handbook version, and due to be available in an online version for 2020/21. Several fact sheets and videos on the DINZ Deer Hub also contained useful information and examples.

McKenzie said plenty of the environmental policy work being done at national level has an impact on farming. This included the upcoming details fleshing out the 2017 National Policy Statement for Freshwater Management, likely to cover areas such as stock exclusion, intensive grazing, good farming practice and FEPs. There is also a National Policy Statement on Versatile Land and High-Class Soils being developed, a Biodiversity policy statement and of course the Zero Carbon Bill.

"Being able to move fences using GPS is a massive futuristic consideration for all farmers."

– Bruce Niven, Otaki

Could we go fenceless?

When writer Burton Silver did his famous remote-controlled sheepdog spoof on *Country Calendar* decades ago, we all had a good laugh and then got on with our lives. But in the non-spoof world of farming, the concept of controlling animal behaviour and movement remotely and humanely has been occupying the minds of real inventors since the 1970s.

AgResearch scientist David Stevens told Tech Expo visitors that the technology for containing livestock without fences is now

DINZ staff and contact details

Deer Industry New Zealand, Level 5, Wellington Chambers, 154 Featherston Street, PO Box 10702, Wellington, 6143.
Main Line: 04 473 4500 – Fax: 04 472 5549 – Email: info@deernz.org – Website: www.deernz.org

Name	Position	Email	DDI Office	Mob
Dan Coup	CEO	dan.coup@deernz.org	04 471 6113	021 0676 232
Tony Pearse	Producer Manager	tony.pearse@deernz.org	04 471 6118	021 719 038
Rhys Griffiths	Market Manager Asia	rhys.griffiths@deernz.org	04 471 6112	021 506 647
Nick Taylor	Venison Marketing Manager	nick.taylor@deernz.org	04 471 6119	021 190 8355
Innes Moffat	P2P Manager	innes.moffat@deernz.org	04 471 6111	021 465 121
Catharine Sayer	Science and Policy Manager	catharine.sayer@deernz.org	04 471 6116	021 178 3457
John Tacon	Quality Manager	john.tacon@deernz.org	04 471 6117	021 242 2873
Sharon McIntyre	Deer Select Manager	sharon.mcintyre@deernz.org	03 207 1828	027 634 9387
Lindsay Fung	Environmental Stewardship Manager	lindsay.fung@deernz.org	04 471 6115	027 668 0141
Amy Wills (on maternity leave)	Producer Projects Leader	amy.wills@deernz.org		021 929 246
Cenwynn Philip (on maternity leave)	Comms & Admin Coordinator	cenwynn.philip@deernz.org	04 471 6110	
Rebecca Norling	Comms & Admin Coordinator	rebecca.norling@deernz.org	04 471 6110	
Pam MacLeman	Quality Administrator	pam.macleman@deernz.org	04 471 6114	
Rob Aloe	P2P Project Coordinator	rob.aloe@deernz.org	04 471 6021	
Solis Norton	DeerPRO Manager	solis.norton@deerpro.org.nz	0800 456 453	
Amber Hoffman	Accounts Administrator	dinzaccounts@beeflambnz.com	04 474 0824	
Graham Brown	Executive Chef	graham.brown@deernz.org	03 312 8559	021 242 2871

on the brink of commercialisation. And while there is nothing suitable for deer just yet, the prospect of being able to gently shepherd animals into and out of certain areas without the need for fences is tantalising.

One of the most interesting products is the E-Shepherd by Agersens, which utilises CSIRO-developed technology and is teaming up with Gallagher to release a commercial product in New Zealand. Solar-powered collars are equipped with an aerial that communicates with a satellite via a base station. Two electrodes give a mild electric pulse – enough to cause a muscle twitch – when needed. The pulse is preceded by an audible buzz warning and Stevens said cattle used in trials take only about 48 hours to be trained to respond. In fact it works so well they also respond to the sounds emitted by the collars on other animals.

Stevens said animals are quick learners and soon know when a conventional electric fence is off. The same intelligence is useful with the virtual fence as animals quickly adapt when the "fence" is progressively shifted.

He said that with deer this could be used to discourage fence pacing or formation of stock camps and the accumulation of too much effluent in one place. It could also be used selectively, for example to allow calves access to certain areas but not their dams.

At 2.5kg and requiring a collar with a counterweight to keep it in place, the E-Shepherd wouldn't be suitable for deer, but Stevens hoped more deer-friendly versions might eventually be developed.

AgResearch has been trialling the units on cattle and is considering how the public would perceive such technology as well as ways it could change farm practices. There didn't seem to be any health or welfare problems, he said. "In the trials we kept the cattle back from the real physical fences but we didn't see any evidence of them trying to rub off the units."

He said they have a 200kg-strain buckle in case they get hooked onto something like an actual fence.

Other forms of virtual fencing and related technology are also in the pipeline, Stevens said. These included:

- The Halter is being developed by an Auckland company and is currently being trialled on a Waikato dairy farm. The collar-mounted units help monitor health and feed intakes and can be used to shift or draft cattle.
- The Ceres smart GPS-compatible eartag, also from Australia, provides positioning, movement and health monitoring.
- Vence, also being developed in New Zealand, is similar to the E-Shepherd and uses audio cues to control cattle with the aim of reducing labour and fencing costs.

"The ability to graze large river or stream frontage without physical fencing was of particular note. Having the ability to graze sections of paddocks that stock find undesirable without the need for temporary fencing was also of interest."

– Mark McCoard, Taihape

Deer-specific drench getting closer

Veterinarian and elk/wapiti breeder Dave Lawrence told visitors that all of the required trial work for a registered triple-combination deer anthelmintic has been completed and the application for registration is now in its paperwork phase. This is being done by Nexan, a New Zealand animal health company working with Deer Industry New Zealand.

Lawrence said the effects of up to three decades of using a single active drench in deer were starting to come home to roost, with resistance now becoming widespread. "You should never use a pour-on with deer, or a single-active drench."

He said it was conceivable that the registered triple combination drench for New Zealand could be on the market by the end of the year, but there was no guaranteeing the timeframe.

Until a fit-for-purpose product like this was available, the best option was to continue putting together your own combination using injectable Cydectin at the cattle dose rate along with an oral combination of Oxfen C and Oxfen C Plus given at 1ml/5kg liveweight. "Having to make a cocktail like this for deer is far from ideal but it does deliver the right dose rates for deer," he said. "A lower dose than this would be underdosing."

A deer-specific triple drench is getting closer, Dave Lawrence reported.

Because this combination was off label, there was a default 90-day withholding period, which was problematic for some finishers.

Lawrence said some farmers were using proprietary triple combination drenches at double the label dose rate, but even this risks underdosing for the white (BZ) component.

The new drench, when available would be at a practical dose rate and would have a short withholding period. "The composition of the new product will help delay the onset of further drench resistance," he said.

Eye muscle scanning benefits

Dave Lawrence also updated his audience on the benefits of ultrasound scanning to assess the eye muscle area. Genetic selection favouring eye muscle area had "huge potential", he said. "The trait is measured a lot in other species and in deer it's heritable also, favouring high-value cuts."

He said the bonus with deer is that animals with larger eye muscle areas also had higher dressing out percentages, a better meat-to-bone ratio and better eating quality (tenderness and texture, succulence and aroma). Dressing out percentages could vary from around 45 to 60 percent, showing there was considerable potential for selection on this trait.

"If a commercial deer farmer selected replacement yearlings on this basis for five years, then at a 20 percent replacement rate in breeding hinds we could up the performance of the whole herd very quickly."

continued on page 24

Tech expo: continued

Lawrence said ultrasound scanning for eye muscle area is cheap ($12/head) and simple. While currently only used by Deer Select breeders, he said other farmers should also consider getting their 10-month-old replacement hinds scanned.

Own your decisions

Have you made a decision about putting in a new crop? Then you'd better be prepared to own that decision and think hard about the consequences, because there are things that can go right (great productivity) and wrong (eg, photosensitivity). That challenge was issued by PGG Wrightson's Andrew Dowling, talking to farmers about getting solutions that work in the lab to work on the farm.

He explained that PGG Wrightson has a team of technical specialists who work with the sales team to advise farmers on achieving their farming goals. "Determining those goals is yours

PGG Wrightson's Andrew Dowling urged visitors to think carefully about the consequences of their plans for crops.

to own. Not thinking through the impacts of a systems change can result in surprises. Changing the cultivar of ryegrass is a lot simpler than choosing to plant a crop that will change your farming system."

Using the example of a crop such as Raphno brassica, a hybrid between kale and radish, Dowling encouraged people to carefully consider what they wanted to achieve before trying it. "Do you want it for summer or winter? What about protection against facial eczema or parasites? Is your choice of crop primarily to manage weed burden for re-grassing or for animal performance?"

Dowling said there was plenty to consider when making a change to your farming system, including possible environmental constraints, challenges from pests and weeds, fungal or bacterial infections and deficiencies of minerals such as boron. He said care was needed with pest control too: "Watch the balance of insects – some are actually useful."

It was also useful to know how a plant would respond under drought stress. "And what happens when a crop flowers? At that growth stage the plant creates toxic compounds to protect it against browsing animals."

He said the state of animal poo was a useful indicator of how they were using a crop. "If it looks bubbly and smelly, things are not going well."

Dowling, who is a vet, added some further thoughts on animal health, urging farmers to think about and prioritise the diseases that could have the greatest impact (an approach that aligns with the deer industry's Deer Health Review programme).

He said good nutrition was a baseline requirement in any animal health plan. Parasites were a fact of life and had to be managed, while farmers needed to assess the risks for various diseases that could be protected against with vaccines or mineral supplements. He said PGG Wrightson's reps could help deer farmers work out what was going to work best on their farms.

Head in the Clouds

The days of carrying essential information around in your head or a "soggy" notebook are well and truly over, said AgRecord managing director, Gretchen King. She was promoting their Cloud Farmer software, which is used to capture, store and share farm data.

King, who runs 900 deer in central Hawke's Bay with husband Leyton, said paper records just don't cut it any more, listing some of the many reasons why a system like theirs is essential in a modern farm business:

- Digital records allow you to easily access data and benchmark your own performance.
- Storage this way protects your own intellectual property and also prevents loss of "institutional memory" if a key person moves on from a farm business.
- The system is ideal for recording and documenting progress against Farm Environment Plans.
- It provides verifiable evidence of claims that are important to demanding consumers – for example, that animals haven't been given antibiotics.

Citing the salutary tale of Kodak turning its back on the promise of digital cameras, King said it was essential to remain relevant. Keeping farm data simple, convenient, flexible and accessible was a key feature of their system, she said.

Gretchen King: Data capture should be simple, convenient and flexible.

"Having access to your raw data, you can generate great reports," she said. "Auditors love our stuff."

She said the system works offline when there is no cellphone coverage. It was like a farm diary on your phone, which captured data that could then be transferred to your computer. King said it was simple to use – "like texting" – and customise with your own stock classes, mobs and so on. Using a smartphone to capture data meant you could also photograph evidence such as ASD forms or drench labels.

King said the system came with a one-off setup fee and then a monthly charge with full ongoing support available. "With the investment in setting up the software, we find people tend to value it more and make good use of it." She said there is a free trial available for those who want to try before they buy.

Take the guesswork out of feed quality

It's your most expensive single input, so it makes sense to find out if it is actually any good. Simone Hoskin was talking about feed and encouraged visitors to use testing to check feed quality. If feed wasn't available in the right volumes and quality, you would be selling yourself short when it came to realising the genetic potential of your deer, she said. "A weaner that hasn't been fed well enough won't grow well enough and will have its later performance compromised, especially with velvet production."

While most farmers claim it's easy enough to judge the quality of standing pasture, they will be guessing and this guesswork gets worse once it was harvested and conserved, she said, although the smell of a batch of feed can give useful clues for palatability.

"Don't assume all batches of grain, palm kernel or baleage are the same. They can be very variable, especially baleage." Deer are notoriously fussy when it comes to conserved forage and won't do well on it unless the quality is high. She said it was perfectly okay to insist on getting feed tested before committing to buying a load.

Simone Hoskin: Recommends feed testing to ensure you know what your stock are getting.

If a batch of your own baleage turned out to be substandard, Hoskin recommended it could possibly still be fed to cattle, rather than deer.

As long as air was excluded, baleage could keep for up to three or four years, but the wrap could be punctured by cats or pukekos, or even the gravel it was sitting on.

Hoskin said use of inoculants with ensiled feed was to be encouraged. "The good bugs that aid fermentation are naturally present, but this really helps – it's good insurance."

The main limitations on feed quality were the metabolisable energy (ME) and digestibility, she said. The protein content and protein-to-energy ratio was especially important for growing and lactating animals. Minerals and trace elements were also important.

Hoskin recommended the Deer Feed app to calculate the volumes of feed needed to achieve growth targets (you need to know the ME of a feed for this), and the Feed Cost Comparer to look at different cost options. Both apps are available on **deernz.org/deerapp**

Looking at conserved forages she recommended the four Ts:

- Testing
- Timing (especially for feed budgeting)
- Transition (this can take a while, especially for weaners)
- Technique (minimising wastage, maximising intake for all the mob).

Hill's Laboratory is the main supplier of feed testing services, Hoskin advised. Kits can be ordered online and there is a wide range of tests available. She said silage being tested must be fermented at least two weeks and forage samples should be chilled but not frozen.

Exhibitors

Thanks to the following exhibitors who supported the Deer Tech Expo:

AgRecord
AgResearch
Agricom
Ballance Agri-Nutrients
BioAg Ltd
Datamars/Trutest
Deer Industry New Zealand
DeerPRO
Deer Select
FarmIQ
Forest 360 + Soter Rural Compliance
Gallagher
Genomnz
Horizons Regional Council
Jason Archer (sponsored by P2P)
Ministry for Primary Industries Sustainable Farming Fund
Moloney Agronomics Ltd
NZ Deer Farmers' Association Central Regions Branch
NZ Landcare Trust
OSPRI
PBB: Performance Livestock Solutions
PGG Wrightson
Primary ITO
Ravensdown
Totally Vets/Wormwise
Uptake/Eurofins

The Manfield exhibition hall, venue for the North Island's first Deer Tech Expo.

DINZ CEO leaving on a high

Dan Coup is leaving DINZ after six years at the top of the executive team. *Deer Industry News* writer **Ali Spencer** caught up with him straight from a "hot, populous and busy" two-week market visit to China.

Dan Coup, from left: Shortly after his appointment in 2013, making one of his numerous presentations to business leaders at a recent deer industry conference, and sampling a velvet-based health product at a DFA branch chairs' meeting.

COUP SAYS HE knew now was the right time to make the change, both for DINZ and also for him, personally.

"I'm sad to be leaving because I have enjoyed the people I work for and work with – they're a great crew. But, it's been six years and I think it's right for both DINZ and me to get some renewal and refreshment," he says.

"It's good for an organisation to have a new set of ideas and leadership style come up every few years. You need to be careful about getting too stuck in your ways, routines and thinking."

Coup he is proud of "some really good things" that DINZ has achieved during his time with the industry.

He became DINZ chief executive in 2013, coming from a trade and policy management role with the Meat Industry Association. He was armed with good skills and knowledge about the meat industry, along with an MBA from Warwick University and first class honours in science from Victoria University of Wellington.

What attracted him to the role was that the deer sector is "compact, cohesive and joined up right the way through the value chain".

The role also had a broad purview: "All the way from science inputs to farming, to supporting the marketers who are putting the product in front of consumers. There are not many other roles with that broad a scope."

But when he joined, the sector was enduring tough times.

"Deer farmers were pretty unhappy with their lot and many of them were voting with their feet," he says, adding that a lot of dedicated farmers weren't going to leave.

The highlight of his time with DINZ has been leading the delivery of initiatives in response, including the strategy behind the seven-year Passion2Profit (P2P) Primary Growth Partnership, which was approved for funding by the Ministry for Primary Industries in 2015. Now beyond its half-way point, there are already signs of an increase in farm productivity and improvement in environmental practices across the industry.

DINZ Board chairman Ian Walker has given Coup some of the credit for a remarkable turnaround in industry confidence. "As CEO he has brought out some of the best in our managers, who are delivering great work on behalf of levy-payers," he says.

NZDFA chairman John Somerville says Coup got the P2P programme to where the association wanted it to go and has made a big contribution to everything deer farmers do.

"We greatly appreciate openness to farmer feedback and discussion. Dan also had a huge ability to remember people. From our point of view he has been excellent. We wish him all the best in his new role, but we're sorry to see him go."

With typical humility, Coup adds a caveat: "The CEO doesn't do anything on their own. All of these things have been achieved by team effort. I've just had the pleasure of being at the top of the tree to witness all of that happening."

Another highlight for Coup has been witnessing the evolving collaboration between farmers, venison marketers and even, more modestly, amongst velvet marketers.

There was some scepticism at the start about proposed solutions like the P2P programme, Coup recalls. "But enough farming and processing people got on board to give it a crack and contribute to the success in many areas – particularly in things like Advance Parties where some great young deer farming leaders have emerged."

The biggest gains for industry, says Coup, have been in the increased confidence and engagement of the farmers, exporters and processors, who seem well placed to respond to whatever the next set of challenges or threats will be.

"It's often about setting ourselves up mentally and business-wise to be able to respond to an opportunity or new set of challenges, such as a drought, downturn in pricing, or a biosecurity or regulatory issue. Are we in a good state to respond?"

One of the best things about P2P for Coup is that it has brought in disrupters or challengers: "That means you're constantly thinking about new challenges and are raising your eyes to look out to the future."

Raising his own eyes to the future, it had become obvious to farmers and DINZ that the primary sector is "behind the eight-ball" in terms of public perception about environmental and ethical care. Both areas are of personal interest for the keen tramper and outdoorsman, so when a Wellington-based opportunity came up which included those, alongside the ability to continue working in the primary sector and maintain contact with deer and other farmers, he jumped at it.

He will start as chief executive of The Queen Elizabeth II (QEII) National Trust on 7 October, replacing incumbent Mike Jebsen. He will be working alongside a familiar deer industry identity, QEII chair James Guild, a former NZDFA chair and DINZ director.

QEII has a mission to partner with landowners to protect special places on private land for the benefit of present and future generations and is one way the primary sector is already doing great things in this area, says Coup.

"The primary sector needs to improve its standing and the respect it receives from the general public. QEII presents a unique opportunity to show more clearly what good environmental citizens farmers really are," says Coup.

He feels "incredibly fortunate" that, when he arrived at DINZ, he walked into an environment where there were already skilled and highly committed people working there, making his life as CEO "incredibly easy". Staff turnover has been low during his tenure.

"My role was to look after their needs and make sure they have everything they need to succeed in their roles. It's been a great crew to work with and I'm confident they will continue to be really dedicated and effective."

He also thanks the DINZ Board members for their leadership and support. "For a first-time CEO coming in, they were patient and gave me good guidance and direction and have helped me develop into the role."

Coup's thanks also go to the "extended family" of deer industry people – farmers, processors, marketers, scientists, vets, agents, consultants and others. "I've really valued their advice and support."

He departs DINZ on 4 October and will be relinquishing his DINZ-related board positions.

The search is on for a replacement to fill some very big shoes and is expected to attract plenty of interest. ■

Velvet pre-season reminders

With spring around the corner and buttons dropping, it is time to prepare for the new season.

New tags are here

Velvet identification tags have changed this season to the new "wrist band" design (see advertisement on this page). Cable tie tags from previous seasons are no longer valid and cannot be used unless they are already in the freezer on frozen sticks of velvet from the previous season.

Tags as usual have a unique number that is below the bar code. For ease of recording, the last number on the bar code does not need to be recorded. Tags are packaged in bundles of 50, with sequential numbering starting from the bottom of the bundle. To help with ease of recording, each bundle of 50 has the sequential numbers on the outside of the packaging. Similarly the packets of 1,000 have the numbering on the outside of the package, the same as with the previous tagging system.

Next season DINZ is expecting to introduce a new batch of tags with UHF chips, which will allow electronic monitoring. More information on this will follow for next season.

RCS audits to continue

Regulated Control Scheme (RCS) audits are continuing this season with a larger number of non-NVSB velvetters on the audit list where the vet removes the velvet. If you fall into this category and have not been contacted, please get in touch with the DINZ office on **04 473 4500** and ask for Pam.

Regardless of whether you are intending to or have upgraded your facilities, they will still need to go onto the RCS audit list. Once on the list, you can advise whether you elect to carry out the audit or opt out of the audit. If you do opt out, you will no longer be able to sell velvet into the food chain or obtain NVSB tags. Please feel free to ring the DINZ office with any questions. ■

"Venison – a quality choice" hot off the press

A new New Zealand venison dossier with the latest health and nutrition information is hot off the press and almost ready for mail-out to health professionals around the world.

Julie North, Foodcom.

PACKED WITH INFORMATION about New Zealand venison's health benefits, the new, colourful six-page English language publication is aimed at dietitians, nutritionists and other health professionals.

"We know they are generally keen to understand more about venison and the benefits it offers for healthy eating," explains Foodcom Director Julie North, whose team carried out the preparatory work for the publication earlier this year (see *Deer Industry News*, April/May 2019) and has been responsible for putting together the new document.

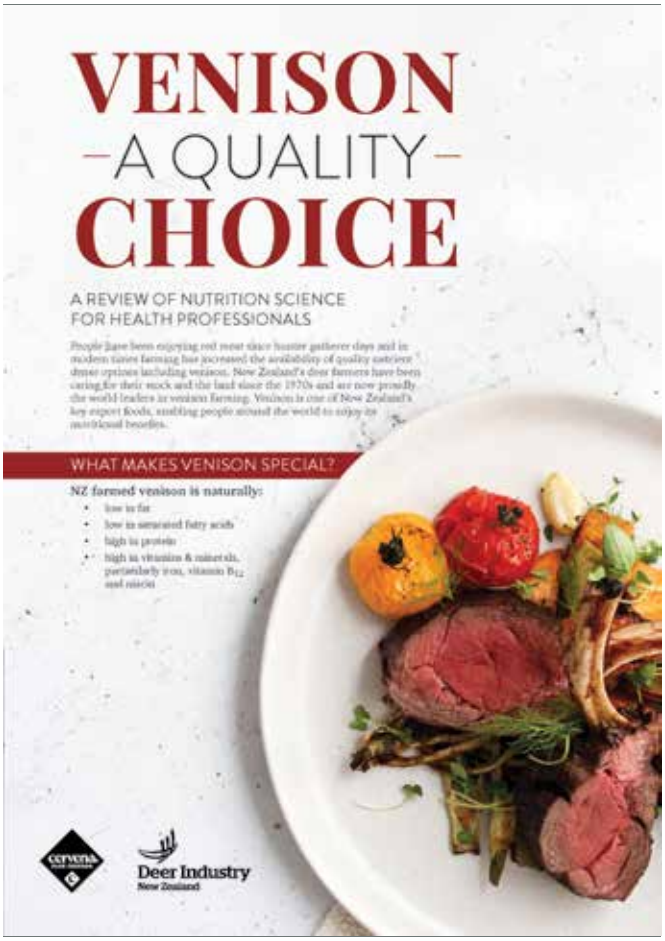
She says it is exciting to see the resource pack materialise. "Not only is it educational, it looks great."

The publication is designed to be easy-to-read, comprehensive and enticing and is formatted for print as a folded dossier that can be distributed via mail-out or handed out at conferences, she says.

"This will provide the key benefits for venison along with useful tips for cooking. It is expected health professionals will take necessary confidence from the dossier to then distribute the resource to their clients," says North.

A more concise consumer version is also on the cards, along with another for foodservice professionals.

DINZ Venison Marketing Manager Nick Taylor says the venison dossier is also being translated into German and Dutch. Plans are for it to be distributed to health professionals here, in the Netherlands through the Dutch Association of Nutritionists, in Germany and also in Canada. ■



The New Zealand venison nutrition dossier.

Venison market update

VENISON MARKETING COMPANIES are signalling a strong spring schedule this year. Average published schedules are currently sitting at nearly $9/kg for AP stags with deer now coming forward for supply for the European autumn game season (see Figure 1, National published schedule, on opposite page). It is apparent that the "cherry on top" of the surge in value of deer co-products for the US pet food trade has passed. Values of bones and other by-products destined for North America have come back substantially in 2019. The increase in the values of these products was fully passed on to farmers in 2018. There is about 15kg of bones, fat, trim and so on out of each carcass, so taking $2 or $3 per kg off the value of these byproducts does take a significant portion off the value of each animal.

In Europe some stocks of frozen venison were carried through from 2018, which has led to some moderate price falls for frozen cuts. Demand for chilled product remains strong, but indications are for a return to the regular seasonal pattern with the normal drop-off in venison schedule following the chilled season.

With lower prices out of Europe, some venison companies are able to divert larger volumes to develop alternative markets. New Zealand export figures show an increase in the volume of venison being exported to China in the past 12 months. While the path to market for venison is not yet clear, development work so far indicates niche opportunities for a range of venison cuts do exist. ■

Deer milk cosmetics in Korea

Pāmu deer milk is on sale in Korea as the key active ingredient in a range of cosmetics marketed by Yuhan Corporation, South Korea's top pharmaceutical company. This is the first time New Zealand deer milk has been sold for use in the Asian beauty industry.

THE SKIN CARE products are being marketed under the recently unveiled "Deerest" brand and the line-up of products is available through Yuhan's "New Origin" brand stores and online.

Pāmu (Landcorp Faming Limited) signed a partnership with Yuhan to supply Pāmu Deer Milk for its range of cosmetic products in December 2018. Chief Executive Steven Carden said it was pleasing to see the new cosmetics range on sale in Korea.

"Pāmu has been working closely with Yuhan this last year as it developed a range of deer milk cosmetic products developed for its first move into the Korean beauty market.

"The Korean beauty market is worth around US$13 billion annually. While it is early days, the investment that we have put into developing deer milk is showing a positive future.

"Our partnership with Yuhan is critical in terms of securing future opportunities for deer milk," Carden said.

"These products are a direct response to what consumers are wanting. We will also be looking at ways to extend this partnership.

"Our award-winning deer milk is a unique product, providing a fresh new ingredient to the food service sector," Carden said.

The idea of deer milk finding a home in the cosmetic space came about thanks to anecdotal evidence from a technologist working on the deer farm. The technologist, who works outside in the elements all year had very rough, dry and callused hands. After cleaning the filters at the end of deer milking each day, she noticed how soothing the deer milk felt on her hands. After just two weeks of milking, she said her hands became noticeably softer and her nails were stronger as well, and the idea for the product was born.

Pāmu deer milk is produced in conjunction with Sharon and Peter McIntyre, who farm near Gore, and Massey University's food programme. ■

• Article supplied

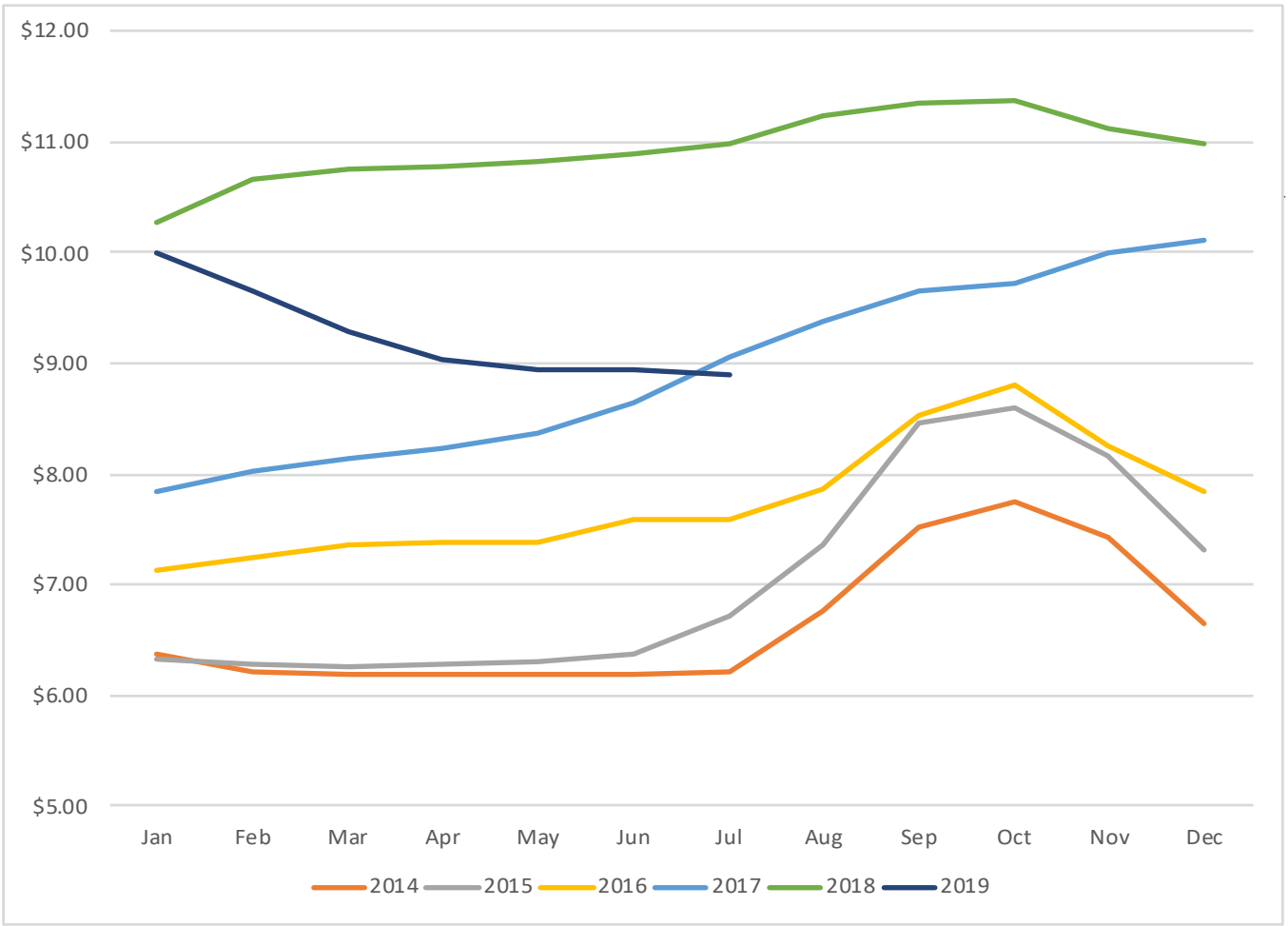


Figure 1: National published schedule: 2014–2019 (monthly averages).

Red meat: a scapegoat for planetary problems?

By Ali Spencer, *Deer Industry News* writer

Red meat, including venison, is being used as a scapegoat for planetary problems and misinformation needs to be put into perspective with good, scientifically grounded fact. That was the message from a well-received presentation at this year's Red Meat Sector Conference (RMSC) in Christchurch late last month.

"THERE IS SOMETHING surreal about food today," food scientist and bioengineer Professor Frédéric Leroy of Vriije Universiteit in Brussels told the 260 delegates from throughout the sector.

Meat, in particular, has many symbolic layers. "It is presented as a long-time nourishing health food, but at the same time another voice says it is dangerous for you."

The danger is that ideologically driven behaviour change is being forced through by a loud minority, without consideration of the full scientific facts. The narrative, whether for profit, growth or ideological reasons, has been further propagated by the mass media, he argued. This has resulted in urgent calls for changes to dietary guidelines, meat taxes and bans.

Frédéric Leroy: red meat is facing the challenges of the post-truth era. Photo: B+LNZ Ltd.

The narrative "crossed a line", for him, when ultra-processed foods like Impossible Burger and Beyond Meat, were proclaimed as "Champions of the Earth" last year by UN Environment, a global authoritative body.

"But grand narratives require solid backers," he noted, pointing to the additional dollars being made off the back of novelty and lifestyle marketing and added-value for the products.

He showed the audience the similarities to the campaign for ultra-processed margarine, the synthetic alternative for natural butter, in the 1950s. Slogans like "It Looks Like, Cooks Like and Tastes Like Butter" spread misinformation, from which it took the dairy industry 40 years to recover.

Leroy argued the meat industry is now being used as an easy scapegoat for planetary problems. His presentation walked through many examples where science fact is being abused and overly simplistic messages continue to be spread. He gave the example of the World Health Organisation assigning an 18 percent risk of developing colorectal cancer for people eating 50g of processed meat a day. This was relative risk, but when translated to absolute – that is, "actual" – risk, it is just one percent.

Another problem was that global figures are presented simplistically and applied across the board, but that separate regions have varying profiles and so require different solutions.

He showed livestock food products – meat and dairy – actually account for a small proportion of the global average individual's annual emissions profile – 12 metric tonnes of carbon dioxide

Tbfree 2020 disease control consultation

OSPRI is inviting feedback on proposed possum control operations for the Tbfree disease management programme.

THE PROGRAMME IS on track to eradicate bovine TB from New Zealand by 2055, with key milestones of TB eradication from cattle and deer by 2026 and from possums by 2040. Good progress has been made to date with only 25 infected herds at June 2019, down from a peak of about 1,700 infected herds in the mid-1990s.

Control of possums, acknowledged as the main carrier of TB between wildlife and farmed cattle and deer, is a key component of the eradication plan to prevent the infection of livestock. The 2020 programme includes 11 aerial operations alongside continuing ground-based possum control and survey operations.

This work controls possum numbers to stop TB cycling in wildlife. OSPRI consults about its operations at national, regional and local level to provide opportunities for people and organisations to see what's planned and identify whether they need further information.

OSPRI Chief Executive Stephen Stuart says, "This consultation process enables anyone interested in, or affected by, TBfree possum control operations to find out, offer feedback, and raise

A familiar face for the deer sector, former DINZ chairman and now ANZCO Foods director, Andy Macfarlane, was one of those asking pithy questions of speakers at RMSC 2019.

equivalent. Going vegan might reduce it by six percent, vegetarian by four percent and flexitarian by two percent. An individual can make more of an impact moving to an electric car, for example, or cutting back on air travel, he suggested. Pretty much the same order of magnitude is found on a macro level, he has noticed.

"Fossil fuels are the elephant in the room," he argued.

The sector needs to be wary of the abuse of metrics, slogans and misrepresentations, he said.

"Let's get some perspective here," he said, adding humans have been eating meat for 1.6 million years. It was essential for our ancestors and is still essential nutritionally today.

Drawing attention to an emerging division of the narrative of food between the evolutionary, species-adapted animal and plant-derived diet and symbolism and ideology, highly processed foods like fake meats fall just beyond the symbolism line, he said.

Dietary comparisons need to be done fairly, including consideration of a food's nutritional contribution to a healthy diet.

"Yes, we are facing a substantial public health crisis and there is a threat to our planet and life on it," he said, acknowledging the status quo is not acceptable.

"But, we need to work with the best evidence and stop thinking in binary/moral categories, stop blaming farmers/livestock and animal-source foods and integrate them respectfully as part of the solution instead.

"Livestock farmers are not working against nature, they're working with nature," he said.

"More importantly, refrain from scapegoating (whether for redemption and/or to divert focus) and start dealing more seriously with the actual priorities."

Sector committed to climate change response

DINZ is working alongside the Meat Industry Association (MIA) and Beef + Lamb NZ as part of the Primary Sector Climate Change Commitment (see article on page 39). This recognises climate change is the biggest issue facing the livestock production sector and details its practical five-year climate change response plan, said MIA chairman John Loughlin.

It is also a signal that the sector intends to be more assertive, "in a sensible way that balances all the realities," he said.

The New Zealand red meat sector is also uneasily looking forward at uncertain global markets. A range of other RMSC 2019 speakers unpacked Brexit in the UK, US politics, consumer trends and the US–China trade war and the continuing fast-paced changes for retail in China, plus the many domestic policy changes that will affect the sector over the coming year. ■

- For further information and presentations from RMSC 2019: **www.redmeatsector.co.nz**

In his post-conference address at the Maersk Gala Dinner in Christchurch's "Cardboard Cathedral" Minister of Agriculture Damien O'Connor noted the sector, which lifted the value of export returns for beef, sheepmeat and co-products by eight percent at the June 2019 year-end, is doing "really, really well." He, again, acknowledged the sector's Taste Pure Nature origin brand campaign, which he noted needs more commitment to take the sector forward into the next two or three decades, and warned against its "huge exposure" to a single market – China. Photo: B+LNZ Ltd.

questions and comments. We're keen to hear about anything that may need further explanation or adjustment."

Well before any operation begins, landowners, farmers and anyone who accesses the land affected by operations will also receive notice of proposed operations from OSPRI contractors. Public notification is published in news media and clear signage at access points to operational areas.

The consultation period runs until 30 September 2019 and there are a number of ways to make a submission, including writing to OSPRI, calling or making submissions through the online submission form. OSPRI will be inviting stakeholders to meet and discuss the document.

The consultation document and details about how to make a submission are available at ospri.co.nz/have-your-say ■

- Article supplied

Objective is to eradicate TB from possums by 2040.

NZDFA membership activities

The NZDFA works nationally to represent deer farmer interests over a broad spectrum of activities, including environment, traceability, research and farmer-led learning. Local branches are also supported through an annual capitation fee to promote regional DFA activities.

THE ANNUAL SUBSCRIPTION for members is $120+GST. The NZDFA relies on this relatively small subscription to function effectively, while continuing to deliver a strong, independent view for producers.

This is a summary of some of the NZDFA's current activities and gives an insight into the many benefits of membership.

Next Generation Programme

This highly successful programme, now in its 7th year, fosters succession and develops new networks. It attracts about 60 registrants and this year has been held in South Canterbury on 21-22 August (see next *Deer Industry News* for a report). It is jointly funded via DFA and DINZ with a programme developed by the past Next Generation participants and the hosting branch.

Environment

NZDFA works alongside DINZ's environmental stewardship programme with strong support and leadership dealing with implications for deer farmers of regional council environmental and water quality planning. This area is a major commitment in voluntary branch input alongside the DINZ and P2P environmental stewardship and provides an important connection with local regional council plans and rules. The DFA believes all deer farmers should support the goal of having a formal Farm Environment Plan in place by the end of 2020. Alongside Beef + Lamb NZ, DFA supports the goal that sheep/beef farms with deer certainly will need these completed by 2023. Several regional councils will require these already as part of the Regional Plan rules.

This environmental field day at Stu Stokes' property was arranged through the Canterbury West Coast DFA.

NZDFA
NZ Deer Farmers Association

https://beeflambnz.com/compliance/environment/environment-plans

The DFA is committed to organising FEP workshops to help deer farmers with the process.

P2P Advance Party Programme

NZDFA encourages regional leadership in support of the Advance Party programme, with many DFA members heavily involved as group members and/or organisers. DFA encourages the running of Regional Workshops associated with local branches and support of local branch events.

OSPRI

NZDFA has been heavily involved in developing OSPRI's Tbfree NZ closed herd annual testing programme, offering testing relief from annual to three-yearly and working to reduce total testing as the risk-based programme evolves with significant reduction in the testing burden (see article in June/July *Deer Industry News*, page 43).

Stagline Online

This comprehensive monthly electronic newsletter is sent to paid-up NZDFA members. Content includes local and national news, links to deer farming-related information and a diary of events.

Branch Chairs' Meeting

An annual highlight is the DINZ Board, DINZ Executive and NZDFA combined meeting with Branch Chairs every October. The event includes encouragement of "New Faces", an industry leadership initiative in association with DINZ and the Ian Spiers Memorial Trust.

Passion2Profit P2P

NZDFA has a key role in supporting, promoting and participating in the Passion2Profit venison marketing and on-farm profitability and productivity improvement programme. ■

Breeding success and more at HB workshop

by Phil Stewart, *Deer Industry News* Editor

The Hawke's Bay Originals and Hawke's Bay Progressives Advance Parties hosted a packed-out Regional Workshop at the Onga Onga Golf Club in Central Hawke's Bay on 24 July. It was a varied programme with a focus on productivity and interaction. This was "Part Two", following up on the "Deer Select, DNA and Drones" workshop held at the same venue in March (see *Deer Industry News* April/May 2019, page 12).

FACILITATOR RICHARD HILSON began with a quick review of the two highly successful Advance Party (AP) tours involving the Hawke's Bay groups. He said the sight of 96kg unweaned elk calves at Clachanburn in Otago during their March tour was an eye-popping moment for the Hawke's Bay visitors. Ru Gaddum (Hawke's Bay Originals Advance Party chair) commented that the tours had opened up new friendships and networks and gave everyone a much better appreciation of the deer industry in a very different environment.

Richard Hilson: Organising another southern tour for Hawke's Bay AP members.

A return visit to Hawke's Bay last October by 18 farmers from Mackenzie, Southland and Otago APs was also a great success, with "heaps of chatter" in the utes ferrying visitors between farms and plenty of learning along the way. Hilson is helping to organise another southern tour for Hawke's Bay AP members in November, this time to Canterbury and the Mackenzie country.

Scanning results revealed

They enjoy a bit of friendly competition in Hawke's Bay, and Hilson's vet colleague (and AP facilitator) Anyika Scotland revealed how this played out in this year's pregnancy scanning results. These covered about forty farms serviced by Vet Services (HB) Ltd, who awarded a prize for the best scanning (see below).

Overall the dry rate in mixed-age (MA) hinds was 4.6 percent (range 0–14 percent). Scotland said this was a bit higher than expected, and maybe due to a combination of a greater number of R3 hinds, a problem stag and some lighter older hinds had skewed the results. "Overall, the hinds were in very good condition this year," she added.

The R2 results were interesting and showed that using spikers over first fawners is probably not a good idea. R2 dry rates by mating management were as follows:

Single-sire mated (MA stag):	13%
Spiker mated (mob):	29%
MA stag mated (mob):	8%

A lot of factors underlay these results. Scotland said the presence of a wild stag, mixed mobs (e.g. if a gate came off the hinges), insufficient numbers of stags and not long enough for socialisation all undermined reproductive success in the R2s. Insufficiently grown-out R2s were also a factor and Scotland said that in large mobs of R2s it was harder to ensure all of them had got to target weights for mating. She said that even if a small R2 hind got in fawn, they were often empty the following year.

Over the past five years, however, Hawke's Bay deer farmers have been trending the right way for in-fawn rates. Since 2015, average dry rates in R2s have fallen from 29 to 12 percent, and MA dry rates from 8 to 5 percent.

Separating out R2 dry rates between spiker-mated and MA-mated hinds over the past five years reinforced the lesson: dry rates when MA stags were used were consistently lower than for spikers, and the difference was as much as 20 percent. (For the purposes of the Vet Services database, "MA stags" is nearly always two-year stags when it comes to yearling hind mating. While a few herds use MA stags as single sires, the vast majority use selected two-year old stags for the young hinds and in reasonable numbers.)

AgResearch senior scientist Geoff Asher, who spoke later on fine-tuning your breeding plan, said the value of using spikers for mating was essentially a myth not supported by credible evidence. Scotland said spiker mating did work for some individuals, although people in Hawke's Bay were generally turning away from the practice.

There can be only one winner and the Vet Services (HB) Ltd prize for best scanning results was awarded to Keith and Sue Burden, who "got the rut right". They used single-sire mating and overall had only two dry R2 hinds and eight out of 258 MA hinds empty. The good results were remarkable given that an R3 mob

continued on page 34

Hawke's Bay workshop: continued

had an 18 percent empty rate. Keith Burden said on reflection that mob had a 2-year-old single sire that was intimidated by older stags in nearby mating paddocks.

Scotland said mob mating with your best 2-year-old stags seemed to be the best strategy and also helped accelerate genetic progress.

Anyika Scotland with top scanning prize winner, Keith Burden.

Free productivity information at your fingertips

If you're a Hawke's Bay Originals AP member, you're likely to have a more productive farm than your neighbours in the region. That was one of the interesting nuggets of information extracted from five years of data by DeerPRO manager Solis Norton.

Graphs showed the AP was ahead of its Hawke's Bay neighbours on carcass weight, kill date, growth rate and dollars per head returns on young (less than 3 years old) deer. But the Hawke's Bay wider venison-producing community shouldn't be too despondent – they themselves were mostly bettering national average figures for these indicators.

Of course correlation isn't the same as causation, so not too much could be read into the graphs, but they did vividly show just how much you can dig down into the data available through the free service and see how you are doing both regionally and nationally.

Norton also showed that all Hawke's Bay deer farmers are well below the national Johne's disease-suspect lesion rate, which helps account for the overall better performance in the region.

He said deer hadn't seen much Johne's disease before they were farmed in New Zealand, so when they were challenged by the disease organism, "it made quite a mess". It was good practice to cull any affected animals ("shoot first and ask questions later") and to prevent young stock from being exposed to infection in pastures where infected animals have been. Deer had generally developed resilience to Johne's by 18 months of age, he said.

In answer to a question on deer evolving greater overall resilience to Johne's disease, Norton said it was possible, though not proven. Certainly the disastrous death rates from the disease seen more than a decade ago were no longer occurring.

Norton said about 500 farms, accounting for two-thirds of the country's venison production, now received regular productivity reports from DeerPRO. Despite the excellent performance of Hawke's Bay farms shown in the DeerPRO figures that Norton had pulled, few if any of those in the room owned up to seeking DeerPRO reports. He said the reports were a great resource for helping set up a Deer Health Review and were also very useful for a farm business that needed some robust productivity data when reporting to a board of directors.

A common complaint about the data is that the industry standard three-year-old age cut-off between "young" and "old" stock is not useful, given that most stock killed for venison are processed before 18 months of age. He said that all deer are now assigned a default year of birth via their NAIT tags which will increase the accuracy of these age-related reports. "It is possible to tailor reports, for example if you are mostly killing two-year-olds, just give DeerPRO a call."

DeerPRO manager Solis Norton showed Hawke's Bay venison producers were tracking above national averages for several productivity indicators.

After several years of decline, the rate of lesions found in deer at slaughter had ticked upwards at several points in the past two years. Norton was keen to see the data for this past winter, which will show if the trend was continuing in 2019. "There is no regional aspect to this. The figures are consistent across all regions."

Norton showed three anonymised case studies, each of which

involved a recent spike in Johne's lesions, well above industry averages and the "high risk" threshold. Interestingly the increase wasn't reflected in performance figures (carcass weights, etc) for two of the farms. This showed the value of the feedback from processors on Johne's lesions as an early warning of an incipient problem on a farm. In the third case, however, the suddenly high lesion rate was consistent with carcass weight figures falling "off a cliff". In this case the situation was being compounded by stress and management pressure, highlighting a farm situation that required additional support, Norton said.

Keen on joining an Advance Party?

Advance Parties are for any farmer who is interested in making changes on their deer farm. DINZ wants to expand the number of people enjoying being in an Advance Party. There are currently 29 APs across the country and DINZ can offer individuals the possibility of joining an existing group if there is room, or can set up new APs if a group of farmers can come together. Contact DINZ if you want to talk about what Advance Parties can offer you.

Email: advanceparty@deernz.org
Text or call 027 372 8756

P2P Advance Party

Main causes of reproductive wastage?

Richard Hilson put attendees to work by asking them to identify what would be an acceptable fawning percentage (fawns weaned per 100 hinds mated) and then what are the main causes of reproductive wastage at different phases of the reproductive cycle. R2 and MA hinds were considered separately.

There was a remarkable level of agreement between the six groups. For R2 hinds they saw 85–90 percent as an acceptable fawning percentage, and for MA hinds 90–95 percent.

Looking at the importance of things that could go wrong during the reproductive cycle, the general consensus rated them in the following order of importance for R2 hinds:

1. The pre-rut phase: Factors such as feed, disease and indifferent management affecting hinds' ability to reach bodyweight targets.
2. Mating: Paddock layout, stag factors (e.g. age, ratios, single or multi, and competition between older and younger stags, or stags from nearby paddocks).
3. Fawning to weaning: Paddock, lack of cover, social groups, fences and so on.
4. Scanning to fawning: Disease, parasites, disturbance, feed, weather and so on.
5. Mating to scanning: Nutritional stress.

For mixed-age hinds, the workshop groups prioritised the phases a bit differently:

1= The periods from fawning to weaning, and mating were given equal top priority. Problems such as misadventure, disturbance and parasites were seen to cause a lot of perinatal deaths. For the mating phase, factors like stag withdrawal dates and weaning management were issues.

3. Scanning to fawning: Loss of condition among mixed-age hinds, mixed age groups and dystocia (often caused by lack of good fawning space) were the biggest factors.
4. Mating to scanning: This was seen as the least problematic phase, with abortion losses the main issue.

Geoff Asher said the issues thrown up by the workshop showed just how many things can potentially go wrong with reproduction, but did emphasise that deer are remarkably resilient and adaptable among animals when it comes to successfully raising a fawn.

"If your weaning rate is greater the 95 percent and you are producing weaners heavier than 55kg, you're in the top five percent of deer farmers in New Zealand. Most manage between 85–95 percent and weaners in the 45–55kg range." Asher noted that these weight ranges do not include elk/wapiti.

He said R2s should almost be treated like a different species, their needs were so distinct. "Most R2 hind mobs achieve only 75–85 percent fawning, so there is definitely scope for improvement."

Workshop groups nutting out the most important causes of reproductive wastage.

Growth for R2s, body condition for MA hinds

The issue for R2s in the pre-mating phase was growth – how close they were to their mature weight.

"To me all R2 hinds are about a 3.5 body condition score (BCS). They are still growing muscle but not laying down visible fat. Young hinds must reach a respectable proportion of their ultimate mature weight by the time of first mating at 16 months of age in order to reach puberty (ovulate). We have been moving the red hind herd away from small Scottish type animals of 90–100 kg to

continued on page 36

Hawke's Bay workshop: continued

larger Easterns, which have a mature weight of around 120–130kg, so the targets are changing. If the mature weight is 130kg, you want the R2 hind to have reached at least 110kg by mating if you want to hit 90 percent conception."

Asher said the same principle applied to elk/wapiti, but being bigger and slightly slower-maturing animals they needed to reach an even higher percentage of their mature weight as R2s for successful conception.

For MA hinds the pre-mating issue is body condition, not weight. An average BCS of 2.0 or less in a hind mob at mating is catastrophic in terms of conception rates. Just adding 0.5 BCS would make a big difference. Most hinds are at 2.5–3.5 at mating – that's not a disaster, but some will still drop out at the lower end.

Asher said mature hinds were capable of putting on condition in the pre-rut phase very quickly – perhaps 0.5 condition points in just two weeks. By increasing conception rates and achieving it earlier, your weaning weights will also increase, he said. "You can change conception dates by up to 12 days through good management."

A range of 3.0–4.0 was ideal. As far as he was aware, no-one has shown that over-fats are a factor in low conception rates. A maximum BCS of 5.0+ is "rare, but not necessarily good, as these may mostly be chronically barren hinds that never lactate".

Not my fault! Stag failure might not be such a big component of reproductive wastage that people might think. Photo: Richard Hilson

Stag failure?

Stag failure was probably not as big an issue nationwide as some may think, Asher said, but at farm level it can be disastrous when it happens. Issues such as oestrogenic red clover suppressing testosterone are rare but should be considered if pure red clover pastures are fed leading up to mating. Stags are in fact infertile for much of the year, he added, but most successfully regain their annual fertility in time for the rut. Injuries to the prepuce can cause stag failure but again, these are generally uncommon events.

Mating ratio and availability of backup stags were important factors. "During the rut, stags go nuts for two or three weeks. They don't eat much, they lose about one-third of their body mass and by the end they're exhausted," Asher said. While some get away with stag ratios of up to 70–80 hinds, he thought a safer bet was one mature stag to 35 or 40 hinds, and just 1: 10 for young stags.

"Using higher ratios of yearling stags is not a good idea. They're young, inexperienced and easily tired out."

The age question

"How old is too old?" one older farmer asked querulously. Probably 12 or 13 for breeding stags was the upper limit, Asher said, noting that genetic improvement is accelerated in a herd when sire stag turnover is faster.

Hind age was also discussed. Asher said deer are one of the few non-human mammal species where the females long outlive their ovaries. "Hinds can live 18–20 years, but few hinds can produce a fawn past age 17 and their reproductive performance drops away past about age 10–12. My policy is to cull at age 10 – or sooner if they decide to have a go at me!"

Overall, Asher said hind nutrition probably trumps stag factors when it comes to reproductive success, but sire stags still need to be monitored carefully for signs of injury and mating failure.

Joining date

Generally the earlier the better was the advice on joining. Asher said some hinds are already cycling by the end of February, so it makes sense not to delay. Deer Select analysis has shown that average conception date can be advanced by up to 4 days through earlier joining. "At Ruakura we used to put the stag in on 25 March. Now at Invermay we do it by the 10th.

The "ram effect" seen in sheep, where ram pheromones stimulated oestrus, didn't seem to be such a big issue in deer. It is certainly hard to demonstrate a significant effect in practice. "They are probably more influenced directly by photoperiod," Asher said.

Social hierarchies

Deer are very hierarchical and sort themselves out quite quickly. Asher said a new stag should be brought onto the farm early – perhaps by January – and introduced to the other stags so they can socialise.

Elk/wapiti bulls are generally dominated by red stags and they should be kept separate when both breeds of sire are run on the same property. Within a species, however, size is a factor and larger males will dominate.

Fetal wastage

Asher said abortion losses are hard to detect, because aborted fetuses are sometimes eaten by the hind or predators. Kandarp Patel's PhD research showed that about one-third of deer farms experience 1–3 percent fetal loss. Overall it isn't a big issue, but big losses (up to 15 percent in R2 hinds) have occurred at farm level.

Geoff Asher: Perinatal deaths may be one of the most important causes of reproductive wastage.

Winter brassicas are thought to be a factor in fetal losses, although this has never been replicated in a research situation.

Toxoplasmosis has been identified as a potential cause of abortions, but vaccination has not been shown to be effective. Asher said leptospirosis was found in deer herds but a link with abortion couldn't be established. Leptospirosis vaccination was probably not protecting against fetal loss in deer, but it was definitely worthwhile to protect humans from the disease.

Asher said when deer do abort it is usually down to a combination of factors, including nutrition. "If you do suspect losses, double scan and talk to your vet, but deer are incredibly tough through a pregnancy."

He said the deer fetus drives gestation length and can delay birth if it's too small. "We recommend you start lifting hind BCS from September/October – it's easy to add 0.5. It will give them a buffer if there's a dry summer later."

Perinatal deaths

Asher said perinatal deaths are probably the most important source of reproductive wastage and are underestimated because they aren't visible. Often the only sign is a patch of bright green grass "fertilised" by a dead fawn, or escaped fawns found dead in shelter belts with worn hooves.

"Fawns often die in hard-to-find places or escape and then die." Starvation and dehydration were the main causes of death, but accidents, attacks by dominant hinds, disturbance by dogs and even thunderstorms all play a part.

Asher said deer farmers can control the fawning environment (covers, shelter, stocking rate) and this can help reduce losses through dystocia. For successful fawning, hinds needed low cover (not necessarily trees), elevation (so they can look out for predators/danger), and space (isolation from other hinds). Asher said fence pacing was a sure sign a hind was about to fawn and was looking for a suitable space. If she was disturbed by another hind during birth she has a higher chance of abandoning the fawn or delivering a dead fawn.

He said the stocking rate was reduced from 12 hinds/hectare to 7/hectare at fawning on the Invermay farm. When AI has been used, and hinds are all fawning at once, stocking rates are reduced even further to 4/hectare. ■

Across the generations

New entrants and a veteran of the industry were all present at the Hawke's Bay Regional Workshop. From left: Ben Anderson, who has recently bought a velvetting property near Onga Onga, James Davidson from Mangaorapa, Southern Hawke's Bay, who farms sheep and beef but also traps and sells red deer, Bill Symons, Turirau Farm, who started farming deer in 1975 with hand-raised fawns and worked with Bob Swann in the early live capture days, and Tom Blakely and Camille Flack, who have recently bought Ian Walker's farm at Oueroa, in Central Hawke's Bay.

Farmers talk genetics

IF YOU HAVEN'T caught up with it yet, put a few minutes aside to watch our latest P2P video, where six deer farmers from throughout the country talk about the importance of genetics and breeding values at their place. Our 'case study' farmers are Hamish Orbell (Clayton Station, Fairlie), Fraser Laird (Whanganui), Andy Dennis (Cathedral Peaks Station, Manapouri), Simon Wright (Fairlight Station, Kingston), Colin Gates (Waihi Pukawa, Turangi) and Tom Macfarlane (The Kowhais, Fairlie).

They share some thoughtful comments and we have some spectacular views of deer farms in a variety of landscapes, shot by photographer Lindsay Keats. ■

Watch the video on: **bit.ly/2Kygf4O**

Winter grazing awareness

PUBLIC AWARENESS OF winter grazing practices has increased recently, along with pressure in some quarters to end the practice. This includes a petition to stop government investment in farms that use winter grazing.

A campaign launched recently by environmentalist Angus Robson included disturbing images of cattle in poorly managed winter grazing situations. The animal welfare and environmental messages were clear to see.

Although the focus has usually been on cattle, the same issues relate to winter grazing deer. And although this year's winter grazing is now all but over, the increased public pressure on livestock farmer over winter grazing will remain. What might be actually sound and well-managed winter grazing (with minimal environmental risk or impact on animal welfare) may not appear that way to members of the public driving past the paddock.

Now is a good time to start planning for next year if winter crops are an important part of your system. There is good advice on choosing the appropriate paddock/soils, and preventing losses of sediment, phosphates, nitrogen and *E. coli* in the Environmental Management Code of Practice. It can be downloaded via **deernz.org/environmental-tools**. There is also good advice on wintering feed systems on the Deer Hub at **bit.ly/2GIMFIr**

Rules affecting winter grazing vary from region to region. The situation is dynamic, with many regional land and water plan changes currently in progress. Contact your regional council for advice if you're unsure what restrictions may apply to you. General advice on regional rules is also available through **lindsay.fung@deernz.org**

Scenes like this are attracting increasing attention from the public. It's important to ensure your winter grazing uses best management practices.

Coming events

P2P Central Regions Regional Workshop

"The right tree in the right place"

When: Wednesday 4 September 2019
Where: Tony and Lynda Gray's Woolshed – Corner Makoura and Pohangina Road
Time: 11.45am light refreshments, programme starts 12.15pm – finishes about 5pm with BBQ
Topics include the Zero Carbon Amendment Bill, what the ETS means for deer farmers, right tree in the right place for the right purpose, how the regional council can help, followed by farm tour and discussion with guest presenters. Bring your own farm map that can be drawn on.
RSVP by text or message to: Pania Flint 027 718 1076, or Stu Corcoran 027 372 8756, email: paniaflint@gmail.com

Kaipara DFA Branch 40th anniversary

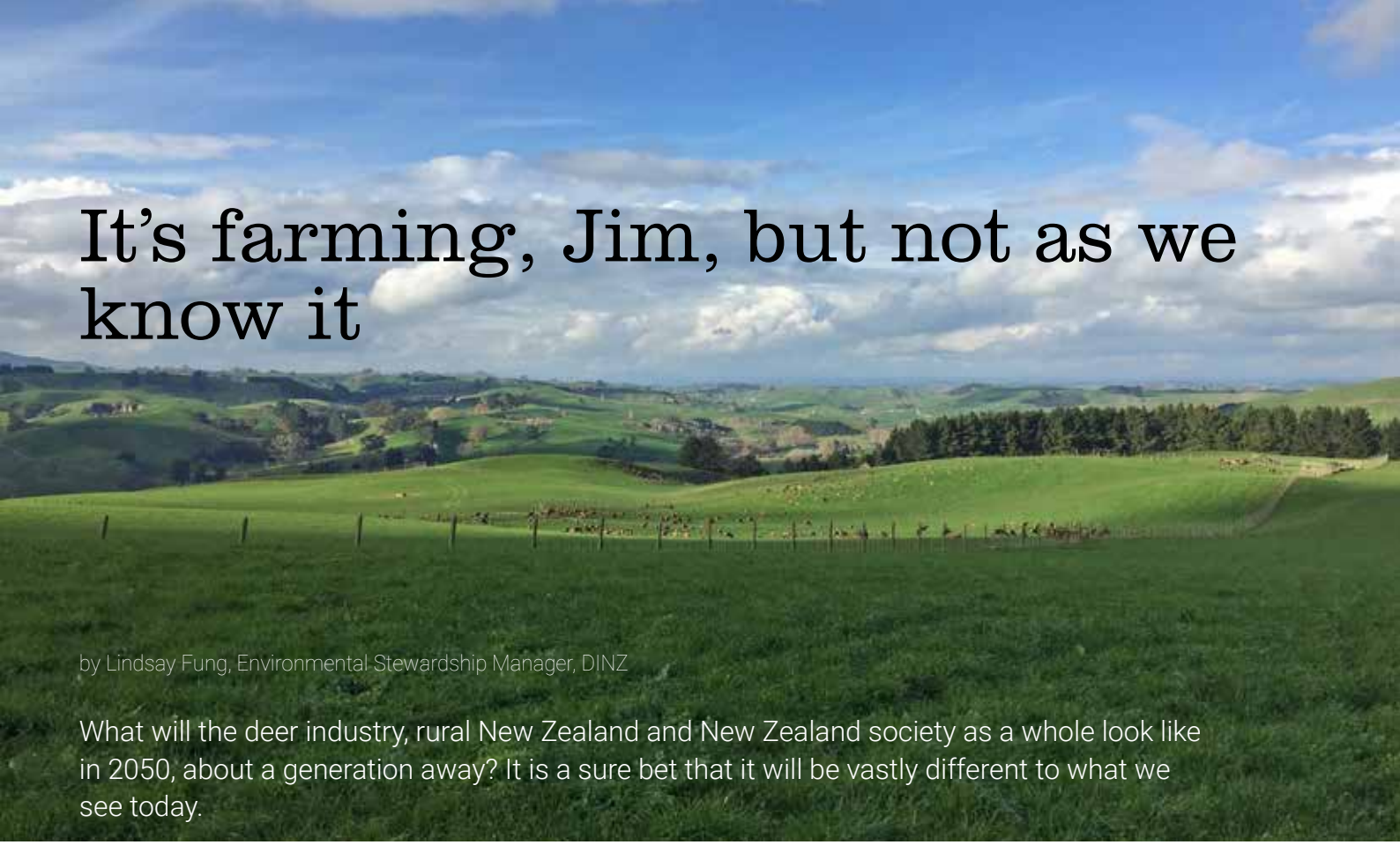
When: Friday 6/Saturday 7 September 2019

Where: South Head Golf Club

Time: Friday 12pm golf, 5:30pm socialising and dinner

On Friday 6 September at the South Head Golf Club, site of the first meeting in 1979. Golf followed by anniversary dinner and celebration. On Saturday 7 September there will be a BBQ lunch and walk about at Sheerwater Deer Farm, South Kaipara Heads.

Contact: Dave Chisholm davechis369@gmail.com or 09 420 7058



It's farming, Jim, but not as we know it

by Lindsay Fung, Environmental Stewardship Manager, DINZ

What will the deer industry, rural New Zealand and New Zealand society as a whole look like in 2050, about a generation away? It is a sure bet that it will be vastly different to what we see today.

NEW ZEALAND AND deer farming today are a far cry from how they were in the early 1980s, more than 30 years ago (think SMPs, state research assets like DSIR and forestry assets both native and exotic, incentives to clear native bush for pasture, and Think Big projects). And for those of us old enough, recall the major structural economic changes wrought by "Rogernomics" in the mid 1980s.

Today, the future is just as opaque and uncertain. What we do know is that New Zealand pastoral farming is facing an unprecedented challenge to the way livestock are raised. There are increasing expectations to protect freshwater resources and native biodiversity, and now we must work out how best to manage methane and nitrous oxide emissions from the farm.

In many ways, we should be in a good space: The mostly extensive farming approach deer farmers take, the well-understood aspects of deer behaviour, and farmers' increasing knowledge of animal health and feed requirements should result in deer farms having a relatively light environmental footprint. This is indeed the case for most of the farms that I have been fortunate to see and it is evident that not only do the farmers have a passion for their animals, but they also show commitment to stewardship of the land – leaving it in good condition for the next generation.

All that may count for very little as the Government seeks to put in place legislation – the Climate Change Response (Zero Carbon) Amendment Bill – to reduce the country's greenhouse gas emissions in accordance with the Paris Agreement to limit global average temperature increase to 1.5°C above pre-industrial levels. Government announcements over methane emission reduction targets and how agriculture emissions will be charged are concerning. They have real potential to effect significant land use change, particularly in pastoral hill country where alternative land uses appear to be exotic plantation forestry or native forest regeneration.

Deer industry submissions

DINZ and NZDFA recently made submissions to the Parliamentary Environment Select Committee, making the following points:

- The Bill references the Government's commitment to the Paris Agreement but does not include an important statement in the Agreement concerning maintaining food production (see below). This needs to be explicitly stated in the final Act.
- Treating methane equitably with long-lived gases by allowing farmers to meet net methane reduction targets on-farm (currently proposed as a gross target meaning there is no offsetting such as tree planting).
- Undertaking a re-assessment of the 2050 methane reduction target (currently proposed as a 24–47 percent reduction) in a manner that is transparent and subject to scientific rigour and peer review.

Paris Agreement

Article 2

1. This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:
   (a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;
   (b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, **in a manner that does not threaten food production**; and

continued on page 40

Greenhouse gases: continued

(c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

DINZ considers, based on currently available science (such as the Parliamentary Commissioner for the Environment 2018 report: *A note on New Zealand's methane emissions from livestock*), that methane reductions of 10–22 % by 2050 would be sufficient to effect *no additional* warming from biological methane.

Following on from this, the Government released a discussion document, "Action on agricultural emissions" which presented two options:

i. Pricing livestock and fertiliser emissions at the processor level via the New Zealand Emissions Trading Scheme.
ii. A formal sector-government agreement that includes a programme of action to support reductions in farm emissions and progress for implementing farm-level pricing (with industry resourcing and funding to a level necessary to implement the programme).

For the first option, the discussion document has estimated emissions pricing at $0.04 per kilogram of venison. This assumes a 95 percent discount on emissions and a New Zealand Emissions Trading Scheme price of $25 per tonne of carbon dioxide. This per-kilo price is derived from dividing the total methane and nitrous oxide emissions for deer (from the national greenhouse gas inventory) by the total venison and co-product production (from Statistics New Zealand). See table below for the calculations.

How was the 4 cents per kilogram of venison calculated?		
	2015	Notes/calculations
Venison (tonnes)	14,869	Statistics New Zealand
Coproducts (tonnes)	4,125	Statistics New Zealand
Deer CH_4 emissions (t CO_2e)	489,200	Greenhouse gas inventory
Deer N_2O emissions (t CO_2e)	93,900	Greenhouse gas inventory
t CO_2e / t venison + coproducts	30.699	583,100 ÷ 18,994
Full liability @ $25/t CO_2e/t venison	$767.48	30.699 × $25
5% liability (per tonne venison)	$38.37	$767.48 × 0.05
Liability per kg venison	**$0.04**	$38.37 ÷ 1000

DINZ is already on record opposing the first option (see DINZ eNews 18 July 2019, Issue 60, *Agriculture set to play its part on climate change* – link: **bit.ly/2T8aX3F**), along with other primary industry bodies. The imposition of a levy with no ability to differentiate between age classes and production efficiency (kilograms of venison per amount of feed), or the ability to "net off" emissions at the farm gate amounts to a flat tax that does not reward farmers for good practices and efficient production.

The second option is likely to be more complex and expensive to administer, but is more focused on meaningful and achievable reductions of agricultural emissions. DINZ stands with other farming sector groups behind *The Primary Sector Climate Change Commitment, He Waka Eke Noa*, a commitment to reduce greenhouse gas emissions from farming. The full proposition can be seen on the DINZ website (**bit.ly/31aHQQa**), but key points are:

By 2022:

- All farmers will know their farm emissions numbers.
- Programmes are in place to assist farmers to establish and maintain newly planted areas.

By 2025:

- A system for farm-level accounting and reporting of agricultural emissions will be in place.
- All farms will have a Farm Environment Plan.
- There are appropriate pricing frameworks that can be practically implemented at farm level.

What is my farm's emissions profile and what can I do about it?

DINZ has engaged an agricultural consultant to visit and interview four deer farms to assess their greenhouse gas emissions (methane and nitrous oxide), the amount of carbon sequestration already occurring on the farm and a range of measures that could also result in reductions of these emissions, as well as their efficacy and costliness (e.g. feeding more plantain, optimal use of fertilisers to reduce nitrous oxide production, improving growth rates without increasing feed/changing the quality of the feed). The four farm types are:

- North Island hill country
- South Island high country
- Velvet focused
- Venison finishing focused

The results are expected to be available in early September and will be provided to deer farmers and farmer groups on request.

Investment in research for reduction technologies, genetic traits, feeding regimes and plant varieties will be ongoing and incorporated into farm practices and the national inventory when appropriate.

The proposition is that from 2025 onwards, the price for emissions is set at the margin (the amount that is over the reduction target level) and only to the extent necessary to incentivise the uptake of economically viable opportunities that translate to lower global emissions.

Farmers are able to interact with the pricing system based on a *net farm-gate point of obligation* for their businesses including offsets and it should recognise all cost effectively and practically measurable forms of on-farm sequestration and offsets supported by science (including native vegetation, riparian planting, shelter belts, orchards and vines – these elements are currently excluded from the Emissions Trading Scheme, which is designed with a focus on extensive plantation forestry, not mixed and integrated land use).

DINZ considers that such an approach would encourage and possibly even reward farmers who are already motivated to "do the right thing" for their animals, their community and the next generation. It would encourage more diverse land use within the farm rather than push large-scale land use change and therefore better reflect the best economic and environmental use of the land.

Under this approach what will deer farming look like in 2050? Actually, probably not too different from now! Maybe that bet wasn't so sure... ■