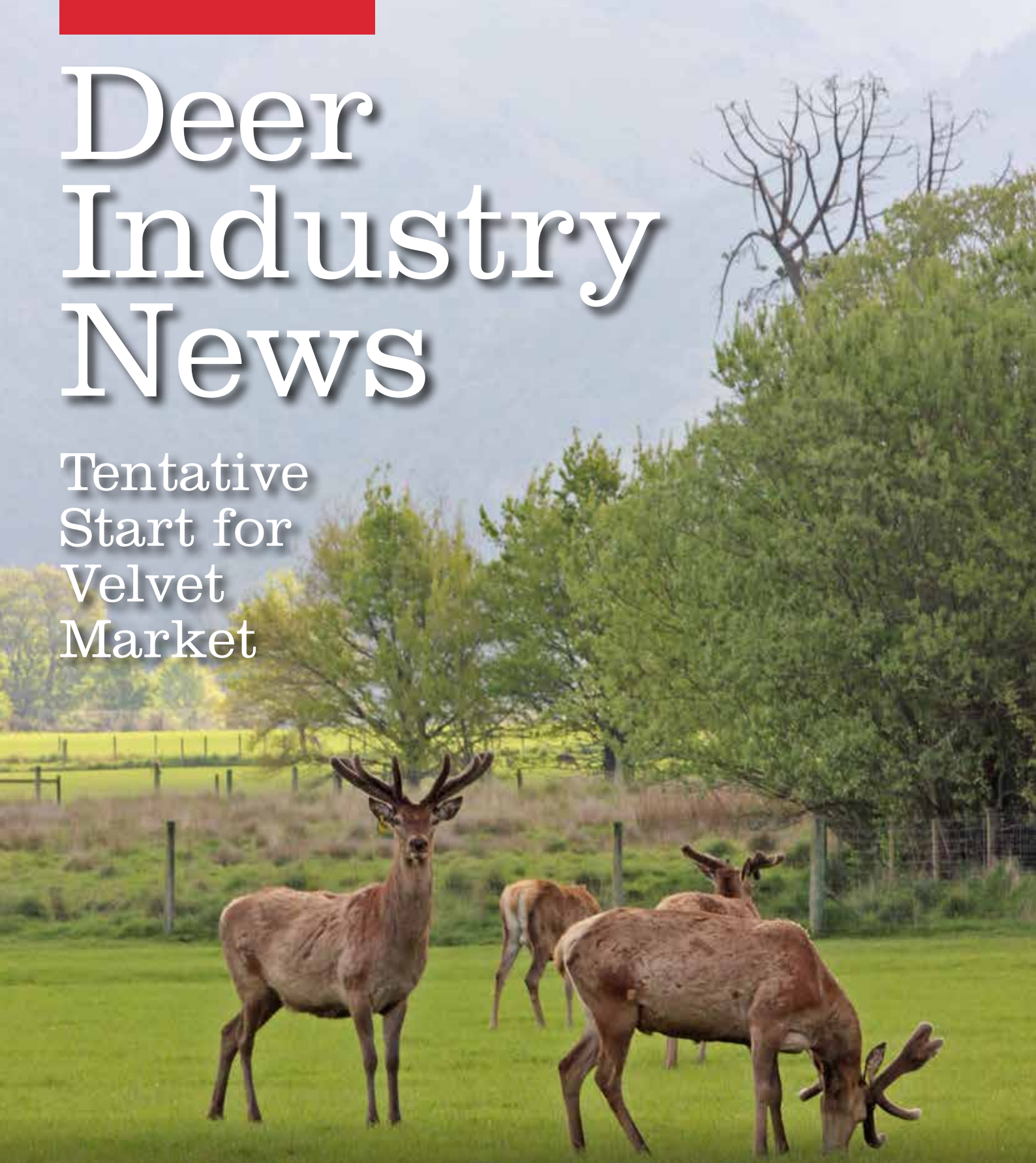
Deer Industry News

Tentative Start for Velvet Market



Earthquake
HUGE TASK AHEAD FOR MARLBOROUGH AND NORTH CANTERBURY DEER FARMERS

P2P Regional Workshops
SUPERB SPRING AT QUARTZ HILL AND LANDCORP FARMS IN BOP AND OTAGO

Branch Chairs' Meeting
ENVIRONMENT AND SCIENCE FOCUS AS NZDFA CHAIRS GATHER IN CAPITAL

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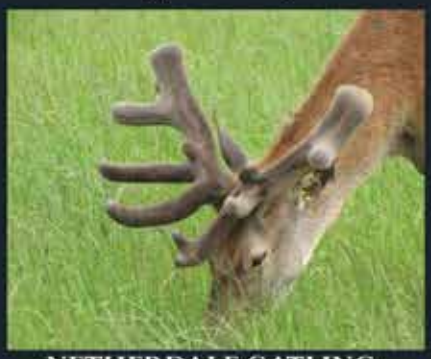

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Deer Industry News

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

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Contents

Cover: Stags at Peel Forest Estate. Photo: Phil Stewart.

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.

The right leadership

Our industry is heading to a pretty good place now as a competitive land use. As we move forward, it's important that the Board of DINZ keeps up with the changes and forms a strategy for the whole industry, taking advantage of the opportunities for growth and profitability.

Paddy Boyd.

It's been a privilege to chair the eight-person Selection and Appointments Panel (SAP) since my predecessor David Stevens stood down. I'm one of four elected members – the others are Brian Russell, Leith Chick and Donald Whyte. We're joined on the panel by the NZDFA Executive Committee.

Our main job is to interview the nominees for the producer positions on the DINZ Board and select the successful candidates. The Board has eight positions, four representing producers. The Chair is traditionally a producer representative although that's not mandatory.

Next year will be a significant one for the SAP. Two of the four producer Board positions will become vacant and one of these is the current chair. (Members retiring by rotation can stand for another term, of course.) In addition, the two producer representatives who will remain have been on the Board for a relatively short time.

In the past, people have been "shoulder tapped" to put themselves forward as candidates and the number of nominees has not always been large. Traditionally, new members have served time as a rite of passage before they were likely to be considered to become Chair.

Those days are behind us. Today the SAP is totally focused on bringing the right combination of skills, experience and personalities to the Board. Some have particular experience that will suit a portfolio very well, but won't necessarily graduate to a leadership role. On the other hand there may be those who can step in to lead the Board early in their tenure without a long "apprenticeship".

To do the right thing for the deer industry, the SAP spends time upskilling on governance and protocols, and has regular training sessions with the Institute of Directors so we can do our job thoroughly and fairly.

We don't just wait until it's time to make a new Board appointment. We work closely with the members to monitor how well they are working as a team and how our new appointees are settling in.

When a vacancy (or vacancies) comes around, we take a look at the skills or experience needed to complement what's already there. This year, for example, we had an excellent set of candidates. Our choice was driven partly by the need to maintain a strong science connection on the producer side. We also need strong accounting and financial management skills and for the moment that is very well catered for by industry representatives.

So what will we be looking for next year?

We need people who can sit around the table and work well with the four members from the industry side. Some of these people head very large multi-million dollar enterprises and our representatives need to be able to talk the same language. They also need the capacity to keep developing and growing into their roles.

Of course we also need people who have a strong connection with deer farming and have direct experience of running a commercial deer farming business.

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EDITOR Phil Stewart, Words & Pictures

EDITORIAL AND ADVERTISING ENQUIRIES
Deer Industry News, PO Box 27-221, Wellington,
Ph 04 384 4688, 021 620 399,
email phil@wordpict.co.nz

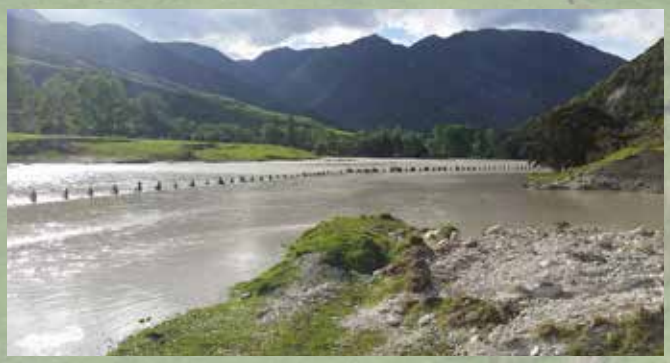
CIRCULATION ENQUIRIES
Deer Industry New Zealand, PO Box 10-702, Wellington, Ph 04 471 6114, email info@deernz.org

Huge task ahead for region's deer farmers

Much of the media coverage in the days following the 14 November earthquake focused on the plight of North Canterbury and Marlborough's tourists, townsfolk and sea life, but farmers isolated in the hinterland are also facing enormous challenges. The complex, 7.8 magnitude earthquake has dramatically reshaped the landscape and, with it, destroyed much farm infrastructure. Marlborough-based *Deer Industry News* writer, **Joanna Grigg**, investigated to find out how deer farmers in the region have been affected and what's being done to help.

DEER FARMERS IN North Canterbury and Southern Marlborough are faced with considerable clean-up and rebuild jobs following the 14 November M7.8 earthquake.

Farm priorities have been getting deer back behind secure deer fencing, fixing water pipes, sourcing fuel and generators and securing extra labour for the months ahead.



The Clarence River takes a new course in the wake of the earthquake. Photo: NZ Farming

Huge damage at Middle Hill

Rick King, Middle Hill, a deer farmer south of the Clarence, has had huge property damage. The house has been yellow stickered, the cottage, woolshed and yards damaged and the deer shed is a write-off. He's had three groups of friends re-fencing: one team pulling out the damaged fence, the next team driving posts and the third nailing netting. The uplift pushed up a 60-foot hill and changed the view from the homestead, now with a view of the sea.

Rick let the hinds make their own way back to blocks after the quake for the first two days. Helicopter traffic made mustering difficult at the time.

"They mostly found their own way although, without internal fences, the hinds, stags and yearlings are all in together, right on calving time."

Yearlings that were due to go will have to stay until Renner Fencing rebuilds the yards.

"Luckily we have feed, the biggest plus at the moment."

Rick said any offers of fencers who are keen to lend a hand would be much appreciated.

"I can't wear out the volunteers; a couple even came up from Waimate and others have taken time off their jobs."

Mendip Hills deer shed written off

Simon Lee, Mendip Hills, southwest of the Conway River, said damage was particularly bad at the Mt Stewart end of the property. Slip erosion through sheep fences was the main issue here. The deer unit fences got off lightly in comparison although the deer shed will need to be replaced.

"There is a one-metre-wide crack through the top deer shed, running through the loading ramp west to east," he said. The deer are "bloody unsettled".

Velvetting happens in another shed but the top deer shed will be needed by March for weaning.

"We have a plan to pour some concrete in the hole and make do if we can't get the builders in to replace it in time," Simon said. "All the gates are jammed shut."

The seven year old diesel-driven and gravity-fed stock water scheme has been badly damaged. Pipes have been left hanging within the ruptures. Simon said they are fortunate to have creeks and dams full at the moment and plenty of feed.

"We've had a lot of wonderful help from friends and past staff."

Water is stored on trucks for the houses and some stock. The Cheviot Council Scheme was repaired within five days although on limited flow as reservoirs fill, Simon said. Having more fuel stored in jerry cans is something Simon will do in the future. Tanks spilt 9,000 litres of diesel and 1,000 litres of petrol. Fuel is rationed within the Kaikoura zone, with implications for hay cutting.

The Waiau water scheme, which services 100 farms, suffered considerable pipe damage. The pipe from the source to the reservoir needs to be completely replaced. The Clarence stock water community scheme was also damaged, cutting off water to 60,000 stock units.

Justin Stevens, Marlborough DFA, said the quake was far bigger than the 2013 Seddon earthquake but, because it travelled down a different fault line, the damage was less in Seddon this time. Water trough fittings sheared off and K-line outlets snapped. Farmers from Ward to Clarence bore the brunt of the coastal damage with several homesteads likely to be replaced rather than repaired. The loss of family homes and treasured historical pieces has been particularly cruel. One property still had no power 12 days later.

Farmers, friends and businesses pitch in

Initial practical help in the first week has come largely from farmers and friends helping other farmers. Rural businesses have

Photo: SNPA/David Alexander

also been proactive in sourcing and supplying generators, water and food.

Mark Zino, Hawarden, was one of a group of Hawarden and Waikari farmers who drove through the inland road within the first five days post-quake to help fellow deer farmers. He estimates that all of the 20 or so farmers with deer in the area have some damage, although plenty of fences are still intact. Priority has been to fly the boundaries and make repairs.

The Kekerengu fault ripped through farmland on Monday 14 November. Photo: James Moore.

"Most farmers have some deer fencing supplies on hand which is good and many fences have already been repaired."

The group visited Stone Jug, Whalesback Station, Flax Hills and other properties. Stock are relying on creeks and dams instead of reticulated water, he said. This was okay when the weather was wet but will change with the heat.

Neighbours, deer farmers and friends help out post-quake. Photo: Sam Zino.

"Hinds have been set-stocked for fawning so you can't move them easily. Some water systems are totally munted and some are yet to be tested as power is not back on."

Facebook page a coordination hub

Duncan Humm, Mt Somers, has been helping provide labour and supplies to affected areas via the NZ Farming Facebook page group. People are in dire need of repairs to infrastructure, he said.

"Communication is the biggest issue as initially we didn't know who needed the help the most. One guy with cut velvet needed a generator urgently but he got that."

Lorna Humm said the NZ Farming Facebook group of friends has funded the work from their own pocket as the Give-A-Little page funds are released after a month. The group has a following of 100,000 on Facebook and offers came in quickly.

"We just want to get the job done so have made good use of supplied aircraft to drop supplies and to check with people."

Mt Lyford needed a water purification plant so we've found one and are getting it in, Lorna said.

She added that Janey Hayes, Lochinvine, had made venison casseroles with help from a catering company and they had been dropped in. From the Marlborough end, NZ Farming has helped coordinate large drops of food and other supplies.

Lorna Humm said bureaucracy moves slowly and sometimes is overly restrictive and impractical. Given communication disruptions, it is not surprising that confusion can occur.

"It is not a good idea to put pen pushers in charge of logistics as rural networks are best placed to look after other rural people."

Most of the information on what help was needed came from people who flew in and reported back, Lorna said. Within the deer industry there have been offers of fencers and supplies, off-farm grazing and working bee teams. (As we went to press, Dan and Georgie Harper of Quartz Hill Station plus two farm staff, were heading to Marlborough to help out with some fencing.)

Beef + Lamb New Zealand was very quick to offer support and email out to people, Lorna said.

NZ Farming's Give-A-Little page has raised over $50,000 and she encouraged farmers to donate this way. NZDFA Chair, David Morgan, said the organisation would provide a second wave of help.

"We need a coordinated approach, so are working with Federated Farmers, Rural Support Trust, Lions Clubs and others."

Government help

Former deer farmer Stuart Smith, Member of Parliament for the Kaikoura Electorate, has set up a temporary office in Kaikoura. His priority is being available to people within the electorate, a challenge given lack of access north and south of Kaikoura. Minister for Primary Industries, Nathan Guy, announced a support package for the primary sector of $5 million to "get rural businesses back on their feet". This includes $4 million spread between three mayoral relief funds (Kaikoura, Hurunui and Marlborough) and to rural support trusts.

Recovery coordinators have been appointed for each area. Funds for agricultural students are available to help with clean up, he said. Insurance companies and EQC staff are holding community meetings in affected areas.

Ben Robinson, Ravensdown Aerowork Pilot, drops supplies at Stone Jug Station, Inland Road, Kaikoura, five days after the quake. Goods were from the NZ Farming Give-a-little fund, Young Farmers (Culverden) and the University of Canterbury student army. Photo: NZ Farming.

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Throttle still open wide for integrated velvet business

by Phil Stewart, *Deer Industry News* Editor

The Focused Farm programme returned to the Rupert family's breeding and velvetting operation in South Canterbury on 25 October to review progress under the theme "Feed to Profit".

ABOUT 50 PEOPLE attended the day at the velvetting block "Leamington", near Peel Forest, hosted by Martin, Rikie and Kiri Rupert, and Josh Brook. Part of the deer industry's "Focused Farming" programme, it was organised through DINZ, NZDFA, DEEResearch and AgResearch and sponsored by BNZ, Provelco, Mountain River Venison, PGG Wrightson and Agricom. Facilitator was Justin Geary.

The day started with a tour of Leamington which, like much of the country, was enjoying an excellent spring with pasture covers averaging 2,700kg. Thirty-five hectares had already been cut for baleage and a further 100 hectares was lined up.

This stream is to be fenced and will flow through a filtering wetland.

At a brief stop to talk about environmental work on Leamington, Martin Rupert explained a stream was to be fenced off with pine trees removed and a wetland created to filter water before it then flowed into a stockwater race. He said some bare areas had been fenced off and planted with natives.

Following venison and velvet market updates by Marianne Wilson and Rhys Griffiths of DINZ (see separate market reports in this issue) and an update from Provelco's Ross Chambers and Mountain River Venison's John Sadler, Martin Rupert talked about the progress the family business had been making against the KPIs they discussed at the initial field day in March this year (see *Deer Industry News*, April/May 2016, page 6).

KPIs looking good

Martin said a growth in the size of the breeding herd had allowed a further increase in selection pressure on the stags they bred. "We only need about one-third of the stags and hinds we produce." About 180 of the home-bred stags are retained as two-year-olds, with only the top 80 making the cut to stay on as three-year-olds.

This selection pressure had resulted in a remarkable improvement in weights. Two-year-old average weights improved from 2.7 to 3.7kg between 2012 and 2015, while three-year-old weights jumped from 3.9 to 5.4kg over the same period. For all age cohorts, average weights have been on the incline for the past six years.

They are now velvetting nearly 600 stags, with total production in 2015 reaching 4.38 tonnes. The Ruperts would like to get that up to 5 tonnes. Including velvet from spikers and regrowth, the stags averaged more than 7kg across the whole herd.

In 2013 the Ruperts noticed a good response when they kept the three-year-old stags separate from the mixed-age mob and this year they were kept separate again. As we went to press Kiri reported the three-year-olds had just been cut and averaged an excellent 6.24kg, well up on the 5.4kg recorded for three-year-olds last year. It's thought that keeping them separate prevents any bullying and stress on the younger animals, giving them another

continued on page 8

Editorial: continued

But not all of them necessarily need to own deer. We are keeping an open mind and we are urging the Board to widely advertise the upcoming vacancies and lift the profile of the industry. There's also the question of gender balance and it would be great to be able to appoint the first woman to the DINZ Board. That said, any appointment is made strictly on merit.

There's a lot of competition within the primary sector and the SAP is keen to make sure the deer industry doesn't get left behind. Having a dynamic forward-thinking Board is key to this. ■

–Paddy Boyd, Chair, Selection and Appointments Panel

For more information: www.deernz.org/being-on-the-dinz-board

Earthquakes: continued

The significant slip damage around Ohau Point means direct Blenheim-to-Christchurch access will be disrupted for months. Deer farmer Mark Zino guesses it will be some time before stock trucks can use the inland road.

"It was unnerving driving under that big slip at the Whalesback. It goes for about 800 metres."

His group were able to move through the cordon after permission directly from the Hurunui Mayor. The cordon was frustrating for some as they were not letting local people through, Mark said. "We had to ask nicely and they were turning back the dodgy looking people!" ■

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Velvet business: continued

Table 1: Financial KPIs for Rupert velvet enterprise

	2011	2012	2013	2014	2015
GFI	$352,000	$597,000	$671,000	$831,000	$1,011,300*
GFI/ha	$1,923	$3,262	$2,071	$2,565	$3,121
FWE	$204,000	$262,000	$384,000	$499,000	$428,000
FWE/ha	$1,115	$1,432	$1,185	$1,540	$1,321
FWE/GFI	58%	44%	57%	60%	42%
EBIT (net profit)	$94,000	$282,000	$156,000	$183,000	$421,000

***2016 estimate: $1.1m**

year to mature before mixing it with the big boys.

The financial KPIs for the Ruperts reflect the growth in the business and the additional investment four years ago when they bought the breeding block, Scotland farm (Table 1).

Since 2011, gross farm income has more than trebled to an estimated $1.1 million (2016 estimate). Farm working expenses jumped in 2013 and 2014 following the 2012 purchase of Scotland farm and subsequent development work, which was paid for out of income rather than debt.,

Velvetting stags enjoy excellent pasture covers at the Ruperts' Leamington farm.

Martin said the most important measures are farm working expenses (FWE) per hectare and FWE as a percentage of gross farm income (GFI).

FWE/ha were $1,321 last year, reflecting the intensity of the business. FWE as a percentage of GFI spiked at 60 percent in 2014 following the purchase and development of Scotland farm, but was back down to a reasonable 42 percent last year.

He said the herd still had progress to make genetically. "Our retained two-year-olds now average 4.3kg. And now we have ordinary stags cutting 12kg. That would have been unheard of a few years ago."

Feeding the stags

Looking at the diet of their velvetting stags from mid-winter to early summer, the animals are maintained with fodder beet, baleage and palm kernel from June through to August. They switch to grass and palm kernel from September to November, with average daily intakes lifting from 3.0kg in mid-winter to 5.0kg in October and November. The amount of palm kernel used in this ration lifts from 1.3kg/day in June, up to 2.5kg in October.

Martin Rupert said the palm kernel stops once velvet cutting is halfway through. "They get pretty fat by November, especially after they've been velvetted, but the fat just melts off them from about February." They don't see any more of the supplement until the roar is over.

The Ruperts also use palm kernel for cows during spring in their dairy operation. It's a valuable spring supplement and this also seems to apply to their stags at the same time. "It really perks them up. Financially it's a no-brainer. The palm kernel easily pays for itself."

The poorer land is put into perennial ryegrass, while other paddocks are on a short rotation ryegrass for three or four years before taking a crop.

A crop of HT swedes failed last year thanks to a fungal infection, and the crops are now more likely to be fodder beet. Martin said grass is used to transition stags onto the fodder beet for winter. They are not pushed too hard on the crop or forced to clean it right up. The breaks are shifted every day or two.

"They eventually get sick of the fodder beet and are pleased to get onto grass in August."

Most of the protein in fodder beet is in the leaf and the crop needs supplementing with another protein source, especially for growing animals and when the leaf is gone.

Field day attendees enjoy a barbecue with venison supplied by Mountain River Venison.

Protein, protein, protein

Young animals need plenty of protein to grow to their potential. AgResearch scientist, David Stevens, and Agricom's Glen Judson talked about the best ways of getting protein into animals during that crucial first winter. Stevens said R1s need 12–14 percent crude protein (CP) in their diet, diminishing to 8–10 percent as R3s. About half of the protein intake is used to support immune function, so the need is even greater if young deer are under challenge from disease or parasites.

A South Canterbury/North Otago Advance Party project looked at different options for feeding finishers through winter, based on a diet of fodder beet and baleage. (See Deer Industry News, August/September 2016, page 18.)

In a nutshell, that 100-day trial looked at the most effective option for supplementing the fodder beet/baleage with sufficient quantities of CP. Fodder beet (9 percent CP), apart from some protein in the leaf in early winter, is mostly carbohydrate. Even with the baleage (15 percent CP), deer are left short of protein to support good growth over winter. Palm kernel (12 percent CP) added to the diet did boost growth to an extent, but some commercial deer nuts (22 percent CP), gave the finishers a significant growth advantage and also worked out as the most cost effective option.

Stevens said deer usually get all the CP and other nutrients they need from quality pasture, but farmers need to consider their nutrient balance when deer are off pasture in winter, or in the case of drought.

He said deer need about 11–12 percent CP across their whole diet. Fodder beet and baleage alone added up to only about 10 percent CP and this won't support muscle growth.

The protein requirements of deer grazing on fodder beet increase as the percentage of leaf reduces going into winter (leaf is much higher in protein than the bulb). This reduction is closely linked to reduced growth rates and ultimately the deer "tanking" (not wanting to eat fodder beet) because they are severely protein deficient.

The protein requirements are significantly higher in younger animals as they are still growing and laying down muscle (protein) compared with mature animals, which have finished growing.

The tanking effect of fodder beet can be eliminated completely by ensuring adequate protein is included in the diet while grazing fodder beet.

Palm kernel supplement helps lift protein intake to a point, but the deer nuts made a big difference. Stevens said lucerne or red clover silage can help boost protein intakes, but not grass silage. (Other good protein sources include peas, kale and swedes.)

Quality and balance of nutrients were also important. The amount of the protein that was digested in the rumen made a big difference in terms of weight gains and total feed intake. Different feedstuffs had different rates and efficiencies of digestion, and by balancing nutrients properly, significant gains could be made, Stevens said. This wasn't an issue with pasture, but it was when animals were being fed a crop plus supplements – things that aren't part of a normal ruminant diet.

Comparing baleage, palm kernel and deer nuts as protein sources to supplement fodder beet, he said the deer nuts led to more protein being digested in the rumen and the greatest weight gains. The higher-protein diet also stimulated greater feed intake overall.

Nutrient balance aside, Glen Judson said other factors also drove how well young animals kept growing over the winter. These included:

- how big they had grown by the start of winter (more is better)
- feed quality (megajoules of metabolisable energy per kg of dry matter)
- mob size
- avoiding "empty gut disease" that comes by forcing deer to

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Velvet business: continued

graze pasture or a crop down too hard
- not keeping deer on fodder beet for too long.

David Stevens added that waste could be avoided by feeding out silage in fairly thick lines (more than 6kg per metre). Spread too thinly, much silage would be trampled into pasture.

Technology upgrade

Alongside their farm development, the Ruperts have invested in some technology to support their growing business. Kiri Rupert said they bought a weigh bar, tag reader and Gallagher TSi that "sat in the office" for a while until they saw the full potential of the unit demonstrated at the Peel Forest Estate technology field day earlier this year.

"We got it into the shed and through the winter we entered 16 years' worth of parentage and production data for our stags. We have to do the hinds yet, so we have still got half the story to get in there."

Kiri, who claimed to be "number dyslexic" said she's keen to remove the element of human error from the system and automate as much as possible. At this stage when stags come in for velvetting they are still having to manually input visual tag information, but NAIT tags are also read and the antler weights are automatically recorded for each stag as they go through.

"We end up with a nice little table with averages and we can look at his parentage on the male side. It's very easy to use and even my anti-technology mum [Rikie] has got it down pat very quickly. It saves a lot of time – I think it will pay itself off."

NVSB – this year it's about education

Is your crush clean? Is your lighting adequate? Are your tourniquets and saws cleaned and disinfected? Do you have appropriate containers to transport velvet to your freezer if it's away from the shed? Do you keep dog tucker in your freezer [please don't]? Do you store and record drugs correctly?

These are some of the questions you should be thinking about if you're a velvetter and keeping standards up to scratch for your annual auditing visit. And what were regarded as minor issues to check will be becoming more important in the eyes of the auditors this year, with the overall facility status to become a major audit category that will require deer farmers to upgrade if current conditions are not up to scratch.

National Velvetting Standards Body member Paddy Boyd gave field day visitors a quick rundown on the reasoning behind the visits. He said minor issues are often picked up on a visit. "This year it won't necessarily mean you'll be failed. This is an educational process. But if faults haven't been corrected by the following year, then you might get failed," he said.

He said the visits were carried out by a team of ten auditors, veterinarians who were themselves approved by NVSB and audited by the Ministry for Primary Industries to ensure consistent, high standards were maintained.

Boyd said the velvet industry had come a long way with its standards of food hygiene and welfare, but this improvement would need to be ongoing.

"We're harvesting a food product that we're paid well for, so it's right that we should be meeting high standards."

Healthy deer – getting it down on paper

Martin Rupert is the first to admit that his animal health planning is mostly carried around in his head. He was happy, therefore to take part in a P2P pilot programme to analyse animal health issues, look at the risks from different diseases and formulate a plan to address these.

Under the overall guidance of P2P Deer Health Project Manager Lorna Humm, Martin, Kiri and Rikie worked with VetEnt veterinarian Peter Crawford on a health review for the business. As part of the process they looked at animal performance data, providing a useful focus to identify potential areas of opportunity.

Martin said the process helped him rank and prioritise animal health issues. "Things came up that I really hadn't thought about," he said. "It helped us focus on the most important things."

Gut worms in R1 stags and copper emerged as two areas for greater attention. Martin said they had tried using copper bullets, "but half of them got spat out". However he does see signs such as bowed front legs on stags (possibly caused by copper deficiency) and appreciates this could be "the tip of the iceberg". Because culling is limited, this restricts the opportunities for doing liver tests for copper on slaughter animals.

From left: DINZ P2P Deer Health Project Manager Lorna Humm, veterinarian Peter Crawford and Martin Rupert, who worked together on an animal health review.

Peter Crawford said there were no big issues identified, but there was always room for improvement in the way health risks were managed. An output of the process is a report, containing policies for the management of each disease, as well as an annual planner, which can be reviewed each year. Deer health risk management assessment is being developed as part of the Health theme in the P2P programme. Crawford said going through the process with Martin helped him as a vet get a much better appreciation of the Ruperts' passion for velvet and how the farm business worked.

Lorna Humm noted that the animal health review process can also highlight areas where money can be saved – for example, where unnecessary treatments are being carried out.

She stressed that it's not a case of farmers being told what to do. Rather it's a collaborative process that takes the whole-farm system into account, with policies made on each disease risk. "The health review supports people's animal health decisions," she said.

"Having the plan makes management easier and there's less room for error," Martin concluded. "It really made me think."

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Goudies Station showcases high-performing operation

by Phil Stewart, *Deer Industry News* Editor

It started life as a firebreak in the 1950s. It's long and skinny (18km by about 1km), quite elevated (450–550 metres), and it can fry in summer then freeze in winter. Yet Landcorp's Goudies Station is fairly humming along. This high-performing sheep, cattle and deer enterprise grows 450kg of product per hectare, pumps $1 million into Landcorp's profits and returns a healthy 6 percent on capital.

THE WAIPA ADVANCE Party visited Goudies on 18 October, inviting along members of the Waipa, Waikato and Kaipara Branches of NZDFA as part of a series of P2P Regional Workshops[1]. About 35 people attended, enjoying a rare opportunity to see a large-scale and successful venison operation close up.

Yearling hinds at Goudies Station (Ginny Dodunski photo).

Goudies profile

The 1,988 hectare (1,750 effective) block is in the central North Island, near Reporoa. Annual rainfall is usually 1200–1300mm, but it has topped 2000mm over the past 12 months, giving a great start for the current season. Sulphur is the main limiting growth factor for grass.

All farm water is supplied from two bores on the property. Much of the reticulation system has been upgraded recently, with more than 80km of new pipe going in over the past 6 years.

Its primary focus is a Romney sheep breeding programme, but there are also significant deer and beef cattle breeding and finishing operations.

Deer have been on the farm since the early 2000s, when Landcorp made a strategic shift towards more deer and dairying. (Dairying was ruled out on this block because DDT soil residues were too high.) The breeding herd originated from Landcorp's Rangitaiki Station, east of Taupo.

There are seven staff, three of whom generously made their time available to host the visit. Manager Ken Burt came to Goudies in 2008, inheriting a property that was badly affected by drought and poor pasture production. He cut back deer numbers to the current level of 1200–1300 hinds to improve the balance between stock classes. He also started a cropping and pasture renewal programme that continues today, and has put greater emphasis on rotational grazing.

Breeding operation

In 2016, 1,272 red hinds were mated, comprising:

- 520 mixed age hinds (7–12 years old) to wapiti sires (54-day mating from 25 February)
- 550 younger mixed age hinds to red sires (50-day mating from 1 March)
- 202 R2 hinds to red sires (94-day mating from 25 January).

Weaning is done pre rut (wapiti cross by 20 February and all by 1 March) and hinds are usually cycling within 10–14 days of weaning.

All sires are supplied from Landcorp farms at Te Anau, with a ratio of 40 percent wapiti and 60 percent red. Sires are recorded and are selected primarily for growth rate. The R2 hinds go to mating at a very healthy average weight of 110kg, nearly 90 percent of their mature weight.

The hinds are multi-sire mated in large mobs (550 for the MA hinds) at ratios of 1:25 for the wapiti sires and 1:30-35 for the red sires. The yearling hinds are mated with the new (2 and 3 year-old) red sires at a ratio of 1:12–15. Spikers have not been used for mating for several years. Mating mobs are grazed on a 25-day rotation.

Reproductive success at Goudies is consistently high. This year's scanning results (8 June) are typical:

- First fawners: 93%
- MA red sire hinds: 97%
- MA wapiti sire hinds: 98%

The lowest conception rates have been is 90 percent in first fawners and 96 percent in mixed age hinds – figures that most commercial farmers would be very pleased with! The weaning rate (to hinds mated) is 94–95 percent, indicating excellent fawning management with very few pre-weaning losses.

The Goudies Station deer operation has a very tight – and

[1] A programme of Regional Workshops has been running since August as part of the P2P Programme run by DINZ. They are designed to communicate the lessons from within the Advance Parties and the Deer Select/Deer Progeny Test programmes to the deer farming community. A series of 12 further regional workshops is planned for 2017.

From left: Ginny Dodunski (Waipa Advance Party facilitator), Chris Smith (deer manager), Deb Simon (farm technician) and Ken Burt (manager).

early – fawning spread. Deer can extend gestation if conditions are tough, so special care is taken to maintain their condition in the five or six weeks leading up to fawning. This does not seem to cause any issues with dystocia and the rate of hind loss from this is only about 0.5 percent. Late hinds are culled rigorously.

In addition to getting hinds in good condition for mating, the key to this reproductive success has been careful fawning management. Fawning paddocks are away from the central lane and stocking rates are kept light (4–6/ha) with fawning mobs of 35–50. Stocking rates for fawning had been higher at 7–8 hinds/ha, but deer manager Chris Smith found that reducing this rate helped cut fawn losses.

Set stocking for fawning is done as late as possible, usually well into October onto covers of about 2500kg/ha; fawning is normally finished by mid-November. About two-thirds of the hinds are set stocked onto browntop and the rest onto ryegrass. By mid-December the hinds and fawns are brought into mobs of 150–200.

Feeding

Goudies was awash with good feed when we visited, and that's down to good management as much as the benign season.

It's a grass- and crop-based system and completely self sufficient. No PKE (no longer used by Landcorp) or maize is bought in. Surplus grass is never cut, but is controlled through bringing in additional trading cattle.

First fawners are rotationally grazed on ryegrass with some lucerne silage through winter, with the mixed age hinds wintered on swedes and kale. Weaners thrive on ryecorn at Goudies and graze on it, with Asset AR37 short-rotation Italian ryegrass, through the winter. Young wapiti cross stags are putting on more than 300 grams/day on this feed as they go into winter, giving a great head start.

The programme of pasture renewal is now locked in at Goudies, with 200–300 hectares at any one time being part of the three-year cycle. This starts with ryecorn/ryegrass followed by a swede and kale crop to winter the hinds, then a summer brassica mix (12kg rye, 3kg Hunter brassica, 2kg Puna chicory and 1kg plantain), followed by permanent pasture. Direct drilling is used for everything except new pasture establishment.

Because of financial constraints, 800 hectares (nearly half) of the farm had no maintenance fertiliser last year and 400 hectares has had none for the past two years. Fertiliser is still used for crops

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Goudies: continued

There were excellent pasture covers at Goudies Station by mid October.

and new pastures, however.

The management of feed supply and demand at Goudies is an excellent example of the value of good recording and monitoring systems. Farm technician Deb Simon regularly measures pasture covers and they use a formal grass budget.

Goudies uses FarmIQ, which is linked to the NAIT system. FARMAX is used for planning and monitoring pasture and animal production, and pasture cage cuts have been used to validate and refine the program's performance and accuracy. Pasture covers go between a minimum of 1350kgDM/ha in winter to just over 2000kg in peak season. When we visited Goudies in mid-October the annual feed surplus had already arrived.

Venison production

Most venison producers would be green with envy at the quantities and timing of venison production at Goudies Station.

All venison is marketed under Landcorp's Pāmu brand, via Duncan New Zealand.

Progress to target weights starts early, with fawns growing an average 500-600g/day during the 110 day lactation. Weaning weights this year were:

- Red hinds (replacements): 57.5kg
- Red stags: 63.5kg
- Wapiti cross hinds: 62.0kg
- Wapiti cross stags: 68.5kg

This year, all yearlings (except replacement hinds) were killed by the end of October, with the first draft going off by 14 September. By mid-October, 303 yearling wapiti cross stags had been processed (average carcass weight 69kg) and 120 red yearling stags (64kg). The remaining drafts were scheduled to go on 19 and 26 October.

Deer make a strong contribution to the performance of Goudies Station.

Staying healthy

Vaccinations

All deer are vaccinated with a combined leptospirosis (also for human health and safety reasons) and clostridial vaccine.

Drenching

With the exception of stags following the rut and 14-month hinds prior to mating, no adult deer at Goudies Station are drenched. Weaners get an oral triple combination (moxidectin/levamisole/albendazole) drench monthly from weaning, and stretching out to 5–6 weekly intervals before the last of these is given in June/July to allow the 91-day withholding period. If necessary, Oxfen (registered for deer, with a 10-day default withholding period) is given after the last triple combination.

Trace elements

Cobalt and selenium are supplied through fertiliser. Copper levels are monitored via liver samples. Weaners get three shots of copper from weaning until 12 months and hinds and stags receive it annually.

Facial eczema

No specific prevention programme is used for deer other than good feeding. Vet Ginny Dodunski, who is facilitator for the Waipa Advance Party, commented that facial eczema is finding its way to higher altitudes each year, so it is a good idea to keep a weather eye out for it. Spore counts at Goudies can exceed 150,000. (Visitors were interested to know if the sire stags brought up from Te Anau were susceptible to the disease in the warmer northern climes, but no problems have been detected to date.)

Lessons learned

The Waipa Advance Party and other NZDFA guests at this day were blown away by the level of productivity achieved in this integrated operation and left with plenty of food for thought on their own enterprises. Take-home messages that resonated with the visitors included:

Get everything right before mating.
Fully feed your stock all year round.
Condense fawning as much as possible.
Give R2s more time with the stag during mating.
Get hinds well fed before set stocking for fawning.
Use a lower stocking rate for fawning (most visitors were running at least two hinds/hectare more than at Goudies).
Choose set stocking paddocks carefully.
Feed lactating hinds better in January/February, perhaps using chicory to compensate for poorer grass quality.
Get rid of late-fawning hinds – early fawning gives hinds more time to get back in shape for the next mating.
Feed budget to beat the late winter/early spring feed pinch.
Drill ryegrass with Pasja.
Put more focus on pasture cover targets and make better use of grass budgeting.

- **Acknowledgement:** Ginny Dodunski for her comprehensive meeting notes, which were invaluable in the preparation of this article. ■

Ups and downs of weight targets

by Phil Stewart, *Deer Industry News* Editor

Getting great weaning weights is just half the battle when it comes to hitting your targets for venison finishing from autumn through to spring. This was shown graphically at a P2P Regional Workshop on 27 October at Quartz Hill Station, Canterbury.

NEARLY 50 PEOPLE attended the day, hosted by Dan and Georgie Harper, with Colin and Hilary Guild, and facilitated by Wayne Allan. The day was sponsored by Farmlands, Alliance Group and Canterbury West Coast NZDFA. Quartz Hill Station is part of the Canterbury Advance Party and the workshop focused on increasing profits through better feeding, both finishing and for lactation.

The station is a mixed sheep, beef and deer operation on 3,000 hectares, of which 830 hectares is deer fenced. In winter 2016, it carried 17,205 stock units (SU), including 4,005 deer SU (Table 1). It is a venison breeding and finishing operation with red sires used to breed red replacement hinds and wapiti sires for finishing progeny. There is also a velvetting herd and this is being expanded.

Deer reproductive performance on the property is excellent, with 95 percent fawning (to hinds mated) achieved in 2015, up from 92 percent the previous year. Dan Harper puts part of this down to the great fawning environment, with plenty of natural tussock cover, especially on the 200-hectare hill block. All 900 breeding hinds are wintered on the block from July to early October. It's then given a three-week spell before hinds are returned on 25 October and set stocked for fawning. This season 362 hinds are set stocked on the block and will come down with their fawns in January to get into the higher quality feed during the later part of lactation.

Table 1: 2016 deer numbers wintered by class

Class	Winter 2016
Mixed age hinds	813
R2 hinds	144
Mixed sex weaners	850
Mixed age stags	240
R2 stags	98
Total	2,145 (4,005 SU)

Production slow-down

Dan Harper says his wapiti cross finishing animals had a good start this year, recording average weaning weights of 61kg. But through autumn and winter they flatlined and although their growth picked up again in spring, he suspects the early growth check probably cost each of them a few kilos of liveweight by slaughter.

The progress of the Quartz Hill weaners can be seen on Fig. 1 (page 16). This was plotted and presented at the workshop by Jason Archer (AbacusBio) using the P2P venison production growth curves tool (www.deernz.org.nz/deer-growth-curves).

While they started "ahead of the curve", they didn't kick on. Harper said they initially went onto old pasture to get settled and

The good natural cover on this fawning block is part of the reason for the farm's excellent reproductive performance.

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Quartz Hill: continued

then onto rape. Later on they transferred to pasture and fodder beet. "They did better on the fodder beet and grew well in spring, but I don't think they ever quite caught up to where they could have been."

He is regretting not monitoring them more closely, especially during the early stages. Nonetheless, the overall performance of the venison side of the business has been very good this year. They had 70 percent of the animals away for slaughter by late November, putting them about a month ahead of where they were at the same time last year.

As well as capturing the greater value of the spring chilled venison market, it's important to get the deer away promptly to avoid a clash with grazing priorities for the sheep and cattle.

Follow the leader with tall fescue

One technique discussed at the workshop that aroused great interest was the "leader–follower" system, and Harper has started using this on the tall fescue pastures they have sown.

Deer are given first crack at the pasture with covers of 2,700kgDM/ha and graze it down to about 1,700kg. They are followed by sheep and cattle, which take the covers down further. Harper says this sacrifices some quality for the sheep and cattle, but the tall fescue comes back very quickly in spring and also grows early, which suits the growth curves of the finishing weaners much better than conventional pasture.

"It comes away in September whereas everything else doesn't get going until October," he says.

Harper is a big fan of the fescue. They planted 40 hectares last year and a further 60 hectares in 2016. The seed mix is 19kg fescue, 6kg red clover and 3kg white clover.

Farmlands agronomist Sam Lucas says the main advantage of

Workshop visitors admire the lush tall fescue and clover pasture at Quartz Hill Station.

tall fescue is its robustness and persistence, and the fact that it gives early spring growth – important for weaner deer. He says growth in late spring can "explode", so pasture management needs to be watched.

"It's not as dense as ryegrass, so works very well with red and white clover, as well as chicory and plantain."

Lucas says fescue has become very popular in the Rakaia area, where a lot of farms have 10–15 percent of their land in the grass.

Fodder beet

Fodder beet is becoming an essential part of the feed regime for deer at Quartz Hill. Twelve hectares were used this year, with 20 hectares being sown for next winter. Harper said they achieved a reasonable 18 tonnes/ha yield this year but would like to push that up to 20 tonnes.

He said utilisation can be an issue with deer, which are reluctant to eat the bulb below ground level. "We've changed to a cultivar that has a softer bulb that sits higher out of the ground, which should suit the deer better."

Building velvet herd

Velvetting is being built up as another string to the bow at Quartz Hill Station and next winter, fodder beet will be used to help the stags build up condition in the lead-up to button drop. Harper said they will go onto the crop at the beginning of July and will be supplemented with grain and ad lib baleage.

"This year they had kale and silage, but the timing might have been a bit off."

Harper said velvet weights were tracking about 100g below target this year, but puts that down in part to the lack of culling pressure as they expand the velvetting herd. "Once we've got the numbers up we'll be able to cull more heavily on weight." ■

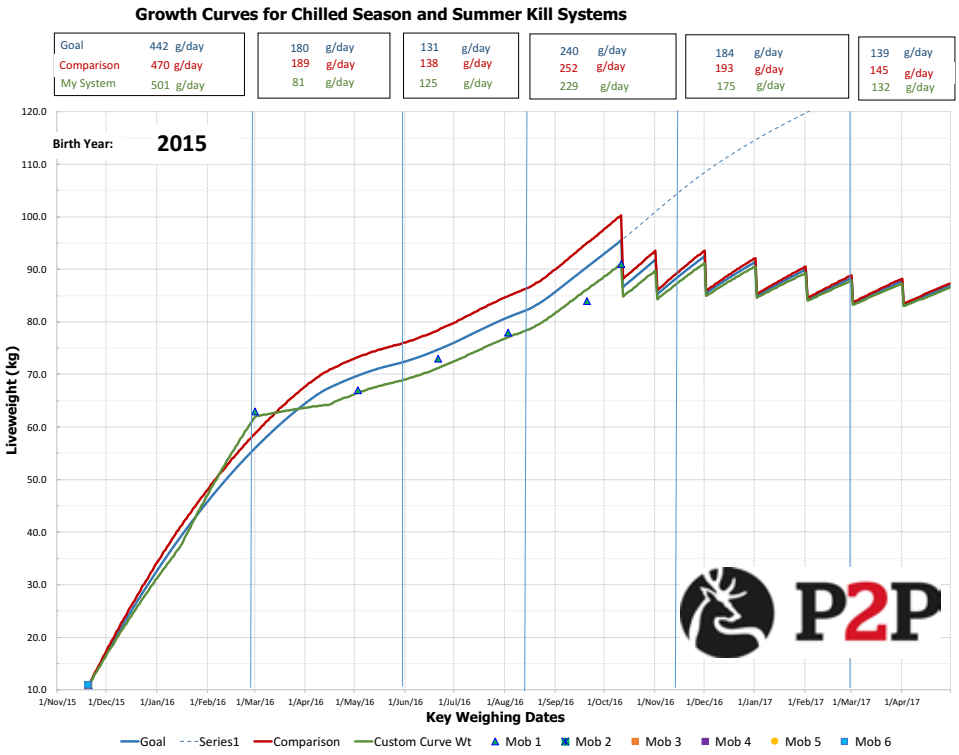

Figure 1: Performance of finishing animals at Quartz Hill, 2016. Weigh points are plotted as triangles and green line approximates growth performance. Blue line is typical growth curve for red progeny and red line represents the potential growth curve for the wapiti cross venison finishers. Graph courtesy of Jason Archer.

Pasture pest focus at Regional Workshop

by Phil Stewart, *Deer Industry News* Editor

More deer please! That was the theme for a P2P Regional Workshop last month, led by facilitator Simon Glennie (AbacusBio), at Landcorp's Dawson Downs finishing property. Members of the Otago Advance Party were joined at the workshop by members of the newly formed South Otago Advance Party, of which Dawson Downs is a part. The new Advance Party is to be facilitated by Peter Kalb of Clutha Vets.

DAWSON DOWNS, MANAGED by Thomas Dalley, is on 946 hectares (876 effective) of flat and gently rolling country about 18km west of Balclutha.

The pastures were bolting away when the 20 visitors gathered at the property on 10 November and staff were scrambling to find enough mouths to keep on top of the feed before the next big mob of lambs was due to arrive. Baling the surplus is an option for maintaining grass quality in the meantime, and as insurance against a dry summer ahead, but the combination of a wet spring and heavy demand for contractors had caused its own headaches.

Large bare patches in one paddock showed the farm wasn't entirely a Garden of Eden, however: grass grub and porina are an issue in places and AgResearch scientist Colin Ferguson was on hand with some good advice on managing pasture pests (see below).

To ensure flexibility, the property carries no capital stock and is entirely dedicated to finishing, with about 20 percent of the area deer fenced. Landcorp would like to increase the amount of deer finishing, but supply of weaners from its farms is a real constraint at present, mirroring the situation in the wider industry as capital herds are rebuilt. They would dearly love more weaner deer, not just because venison is good business at the moment, but because they fit in well around the other stock classes.

This year, just under 1,000 deer are being finished. They came onto the property from Landcorp breeding farms relatively late, with mobs arriving in mid-July (556), late August (298) and late September (119). Most went onto winter rape initially, with the heavier weaners going straight onto grass, but in the end all the deer were moved off the rape and onto grass. Lambs were used to clean up the rape instead.

A finishing mob at Dawson Downs.

The farm also finishes 20,000 seasonal lambs (12,000 at any one time) and winters 7–8,000 trade hoggets. They are looking to provide grazing for up to 2,000 replacement hoggets which can act as a relief valve for some of the Landcorp breeding units. There are 500 hoggets on the farm at present. Spring purchase of ewes with lambs at foot is also undertaken with numbers dependent on feed supply and market returns.

Some 623 R2 cattle will be finished this year. There are also 132 R1s, most of which will be sold in autumn. With its wet winters, Landcorp has moved away from wintering cattle at Dawson Downs, although running some in the blocks of exotic plantation in September/October is a possibility.

The farm aims to produce 650kg of liveweight per hectare, with 60kg deer carcasses contributing to that (kill figures provided for 2015/16 showed there is a bit of work to do to reach that carcass weight objective, however).

Rape is used in winter and summer, and a red/white clover mix is also used. We were shown a paddock where newly sown red and white clover hadn't established well, having been overrun with fat hen. The paddock had then been oversown with Moata Italian ryegrass, and the resulting mix was working well, giving excellent growth rates. Thomas Dalley said it can be grazed through to May and then be started again in September. Even with 25 deer/hectare in September, they were struggling to keep up with the growth. Lambs will graze the mix once the deer are gone.

Animal health

Despite the great conditions, the finishers weren't stacking on the weight as fast as might be expected (they were gaining about 280–300g/day in early November).

Conditions were favourable for high exposure to gutworm parasites (there had also been lungworm evident) and visitors wondered whether the standard monthly Oxfen drenching programme was doing the job. Dalley was concerned that using off-label dose rates would cause withholding period headaches. Veterinarian Peter Kalb suggested using a double dose of Oxfen plus a Cydectin Injection earlier in the year (say in August) and outside the 91-day withholding period, with further on-label treatments with Oxfen later on if needed.

It was also suggested trace element status should be checked, in case deficiencies were holding back growth.

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Dawson Downs: continued

Pasture pests

Invermay AgResearch scientist, Colin Ferguson, gave some useful tips on pasture pests.

Clover pests

Clover is an important part of the pastures at Dawson Downs, a fact not lost on the clover root weevil, which turned up in 2010. At this time of the year most of the adults had died but larvae were in the soil. The characteristic notching in the edges of leaves was not much in evidence but this will change when the new adult weevils emerge in December.

Ferguson said the parasitic wasp that had been introduced in 2012 to control the weevil is now well established in the area and helping keep it in check. That said, the released wasps are female only and genetically identical, so are vulnerable to population crashes. An alternative biological control for the weevil would be useful insurance, he said.

Slugs were also in evidence among the clover. Ferguson said baits, in established pasture, are ineffective, as slugs still prefer clover over the baits. "The best way to control slugs in clover is to graze it down."

Other pests such as army worm and greasy cutworm were in evidence, but these are not economic to control, he said.

AgResearch scientist Colin Ferguson shows evidence of pasture pest damage to clover at Dawson Downs.

Grass grub and porina

The major pasture pests are grass grub and porina. The farm tour at Dawson Downs included a paddock badly affected by porina (see photo). This paddock had been cultivated and regrassed two years previously and porina had hit it hard.

Colin Ferguson said cultivation killed existing pests, but it also killed the natural fungal pathogens that kept them in check. This applies to both these pests and allows them a head start in recolonising cultivated paddocks. It was usually 3–4 years before the natural balance was restored. This, Ferguson said, was why typically pastures in their third winter are damaged by these pests.

Grass grub are root feeders and spend most of their lives in soil. In November they pupate and turn into beetles that leave the soil to mate. This happens immediately on emergence and the

This paddock, regrassed two years earlier, had been hit hard by porina.

female beetles burrow back into the soil, close to where they had lived as grubs, to lay their eggs. Consequently populations are localised starting as small patches that spread outwards and can be easily recognised.

Grass grub can be expensive. AgResearch figures provided on the day showed the cost of the pest to deer production could be $154–$385/hectare at grub densities of eight per spade (200/m^2) and $308–$770/ha at densities of 16 grubs per spade (400/m^2).

Ferguson said rolling with a standard flat roller is ineffective at killing grass grub. The apparent perking up of affected grass after rolling comes about because the clipped-off roots are pushed back into contact with the soil, not because grubs have been killed.

Some pasture species such as tall fescue and cocksfoot are tolerant of grass grub. The larvae aren't affected at all by AR37 ryegrass. (It does kill porina – see below – but deer are quite vulnerable to ryegrass staggers on this cultivar.)

The only form of grass grub control is Diazinon, which can be applied as a spray or prill. Either way, it needs to be washed into the soil by rain or irrigation to get to the larvae below. Ferguson said prills are probably the more effective of the two options and could be broadcast or direct drilled. "Spraying is cheaper but it doesn't work so well."

Porina also spend most of their lives in the soil, coming to the pasture surface at night to graze on plant foliage. There are several species that emerge at different times of the year (generally late October, mid January and, in a few places, late February).

Similarly to grass grub they mate straight away but unlike grass grub, porina lay many of their eggs on the wing and are capable of laying more than 3,000. This "Johnny Appleseed" effect means the pest could be spread widely by just a few moths. Porina moths usually fly towards light or downwind from where they emerged.

Ferguson said eggs and larvae are easily desiccated, but could survive well in damp conditions and long grass. As with grass grub, cultivation for new pasture upsets the natural balance and gives porina an advantage for a time.

In severe infestations, plants are killed and there will be bare patches in pasture. These are generally more extensive and less defined than grass grub patches. Most damage happens from autumn to early spring and shows up in winter as growth slows.

continued on page 19

Sire summaries: December

Deer farm businesses are diverse, with unique needs and preferences when it comes to the genetic traits that suit individual production systems best. Deer Select covers many of the measurable traits that are important to farmers and this gives you the ability to find the genetic lines that match your breeding objectives.

THE SYSTEM COVERS many, but not all heritable traits, and the Estimated Breeding Values (eBVs) and Economic Indexes in the Deer Select sire summaries can be balanced with your own preferences for characteristics such as temperament or structure.

This month we introduce sire summaries for Wapiti and Wapiti Crossbred sires. Note that all red deer values are comparable across the Tables 1–4 (p20), but the Wapiti summary (Table 5) is separate and only compares Wapiti sires relative to each other.

The following simplified tables are extracted from the Deer Select December sire summaries for European and Composite sires (Tables 1–3) as well as English sires (Table 4) and Wapiti and Wapiti Crossbred sires (Table 5). For reasons of space we have omitted several columns. These tables are for the top 10 sires only, ranked on different eBVs or Economic Indices (highlighted columns). We have included a second eBV or Index in each table to show that high ranking for one trait does not always equate with high rankings in others. Rankings can vary depending on what attributes are most important to you. Visit **www.deernz.org/Deer Select** for the complete Deer Select December sire summaries (including European/Composite, English and Wapiti sires) and look for the sires that will best match your breeding objectives. ■

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Dawson Downs: continued

Ferguson said clover is susceptible to porina, as well as ryegrasses, but tall fescue, cocksfoot and red clover although, fed on by porina, are better able to tolerate that feeding.

Porina is also expensive in production terms. AgResearch figures showed a cost to deer production of $204/ha at two porina per spade (50/m^2) and $460/hectare at 4 grubs/spade (100/m^2).

The best form of control is the insect growth regulator diflubenzuron (Dimilin®), although Diazinon or chlorpyrifos can also be used. Dimilin is most effective when the caterpillars are at their earlier stages of growth (10–20mm long) and feeding during warm weather, so it is useful to know when porina moths have been flying. "If there has been more than one main flight of porina, you'll need to time a Dimilin application following each flight," Ferguson advised. It is best applied to short, fresh pasture and allowed to dry on the foliage.

He said a good kill would be about 70 percent of the porina population. This would effectively knock them back but leave enough of a population to maintain the natural pathogens in the environment. An organophosphate would wipe out more than 95 percent of the porina, but this would also kill off the natural disease agents and allow the moth to bounce back more easily.

Ferguson said that as a general rule, healthy pasture is more resistant/tolerant to attack from grass grub or porina. Infestation by the pests "is a kind of grazing". If nitrogen levels are high, the insect larvae are generally better fed and therefore eat less.

Learning from experience

Members of the Otago Advance Party passed on a few tips to the new South Otago group. They said their location gave them great access to southern-based experts such as Sharon McIntyre (Deer Select), David Stevens (AgResearch – deer nutrition), Geoff Asher (AgResearch – deer reproduction), Jason Archer (AbacusBio and P2P – genetics) and Solis Norton (Johne's Management). The nearby location of AgResearch Invermay also provided a real boost as seen by the expert and practical contribution from Colin Ferguson at this Regional Workshop.

They said the Otago group is quite diverse, and the commitment to projects on individual farms is a good thing because it provides a focus and motivation for bringing in outside experts.

DINZ Producer Manager Tony Pearse said the issues being tackled by Advance Parties often boiled down to reproductive success, feeding and parasite control. ■

Opportunities at Dawson Downs

Advance Party members brainstormed opportunities for the operation at Dawson Downs. Here's a sampling of the ideas:

- get weaners in at an earlier age and plant more red clover to get them a good start in autumn before finishing them in spring (for animal welfare reasons Landcorp does not transport young deer lighter than 45kg)
- consider subterranean clover to complement red and white clover (but be careful not to over-rely on clover or there will be a winter feed deficit – also, deer are natural browsers so could become bored with a clover-only diet)
- extend finishing to take advantage of additional income from spiker velvet (the additional $50 or more could help compensate for a lower schedule later in the season)
- run pregnant adult hinds to help keep on top of the spring pasture surplus
- consider running a velvetting mob (Landcorp does not target velvet, however, and regards it as a byproduct from venison production)
- graze more hoggets to help promote pasture quality.

Table 1: Top 10 European and composite sires ranked by the Replacement-Early Kill economic index; 12-month weight eBV also included. This index is focused on venison production and hind replacements.

Current Tag	W12	R-EarlyKill	Current Herd
DARWIN	+31.9	$26.91	Deer Improvement
RAFAEL	+34.7	$25.96	Deer Improvement
CROMWELL	+31.1	$25.86	Deer Improvement
R362/13	+25.1	$25.40	Landcorp Stuart
ZABEEL	+28.3	$25.20	Deer Improvement
RONALDO	+31.5	$24.33	Deer Improvement
COOK	+29.1	$24.24	Deer Improvement
GEMINI	+32.6	$23.86	Deer Improvement
GERMANY	+28.6	$23.48	Deer Improvement
MESSI	+29.0	$23.47	Deer Improvement

Table 2: Top 10 European and composite sires ranked by Conception Date; Replacement-Early Kill economic index also included.

Current Tag	CD*	R-EarlyKill	Current Herd
TUI	-9.0	$19.87	Wilkins Farming
YESENIN	-8.4	$16.07	Wilkins Farming
25/09	-8.3	$22.94	Invermay
ROCKY	-7.7	$16.77	Wilkins Farming
VLADIMIR	-7.3	$5.48	Wilkins Farming
FRANKEL	-6.6	$20.72	Deer Improvement
56/11	-6.6	$4.01	Wilkins Farming
SICILY	-6.5	$21.25	The Steyning
PRADA	-6.5	$22.89	Deer Improvement
451/12	-5.9	$19.04	Wilkins Farming

***The further below zero the value, the earlier the conception date.**

Table 3: Top 10 European and composite sires ranked by Eye Muscle Area; Replacement-Early Kill economic index also included.

Current Tag	EMA	R-EarlyKill	Current Herd
R362/10	+3.32	$13.19	Landcorp Butler
518/13	+3.09	$14.09	Wilkins Farming
25/09	+2.80	$22.94	Invermay
RKD7286/07	+2.66	$11.57	Landcorp Rangitaiki
DARWIN	+2.49	$26.91	Deer Improvement
2357/12	+2.40	$17.86	The Steyning
334/11	+2.35	$17.46	Wilkins Farming
R324/10	+2.34	$17.00	Landcorp Stuart
SIBERIA	+2.23	$13.97	Deer Improvement
144/05	+2.15	$13.97	Wilkins Farming

Table 4: Top 10 Deer Select English sires ranked by Weaning weight; Mature weight eBV also included.

Current Tag	WWT	MWT	Current Herd
EDWARD	+10.4	+10.6	Deer Improvement
TOBY	+9.8	+7.9	Peel Forest Estate
CHURCHILL	+9.3	+12.4	Wilkins Farming
PEEL	+8.8	+12.0	Wilkins Farming
JEFF	+6.6	+14.6	Peel Forest Estate
CRAIGIE	+5.9	-8.8	Deer Improvement
ZEBULON	+4.5	+5.1	Peel Forest Estate
BIG BEN	+3.7	+4.9	Peel Forest Estate
DARTAGNION	+3.6	+4.8	Stanfield English
2194/12	+3.6	+7.3	Wilkins Farming

Table 5: Top 10 Deer Select Wapiti and Wapiti Crossbred sires ranked by Terminal economic index; 12-month weight eBV also included. Please note that Wapiti values are from a Wapiti-only analysis and can not be compared directly with the red deer values in Tables 1–4.

Current Tag	W12	Terminal	Current Herd
ISOBAR	+13.2	$31.73	Tikana
WHOPPER	+16.5	$30.16	Clachanburn Elk
STORM	+14.4	$29.80	Clachanburn Elk
W183/12	+17.2	$27.87	Landcorp Freestone Wapiti
28/06	+16.4	$26.35	Connemara
MEGATRON	+15.0	$25.80	Clachanburn Elk
W219/13	+10.5	$22.45	Landcorp Freestone Wapiti
THUNDERBIRD	+13.6	$20.64	Clachanburn Elk
HOHEPA	+10.3	$19.82	Connemara
NEPIA	+8.1	$19.58	Tikana

Key to Estimated Breeding Values and Economic Indices

W12	Weight at 12 months
R-Early kill	Value expressed in dollars is a balance of multiple traits – offspring growing big and meaty, fast, and hinds that have early conception and efficient calf production. Calculated as follows: Growth eBVs x economic weights + Meat eBVs x economic weights + Conception eBVs x economic weight
Terminal	Value expressed in dollars of offspring getting big and meaty, fast. Calculated as follows: Growth eBVs x economic weights + Meat eBVs x economic weights
CD	Conception date (days)
EMA	Eye muscle area (cm^2)
WWT	Weaning weight (kg)
MWT	Mature weight (kg)

Elk/wapiti claim disputed

Dear Phil

Members of the Elk & Wapiti Society are understandably passionate about their breed. However we do acknowledge there is a place for all breeds of deer within the New Zealand deer industry. There is a range of deer farmed in New Zealand from pure English red to Pure North American elk. Information from AgResearch, Genomnz and Deer Select clearly shows that the majority of deer farmed here are in fact a composite and the "pures" at either end of the spectrum represent less than 5 percent of the national herd.

Total numbers of wapiti are small but they play a huge role in venison production in New Zealand. Using a wapiti terminal sire over a red hind to produce a hybrid fawn is responsible for the vast majority of venison in the premium chilled season. The premium paid for hybrid weaners in the autumn is simply the market acknowledging this.

The Elk & Wapiti Society has over the years contributed willingly to publications such as *Deer Industry News* and has taken great pride in those contributions being factual and science based. It is with great disappointment that we note your publication of "What are B11s?" by Graham Carr in the October/November 2016 issue (page 26). This is the personal opinion of an individual making unsubstantiated claims.

Studies going back 20 years encompassing a significant body of work were published in a Deer Industry Manual by DeerMaster in 2000. It is clearly stated "There is no evidence to suggest hinds mated to either red stags or elk bulls consistently differ in their reproductive performance". The even larger database of DeerSouth endorsed this in the early 2000s.

The industry is maturing, with farmers able to take advantage of new technology and genetics. The recently published Deer Select wapiti sire summary provides farmers with a true independent and objective evaluation of the actual genetic merit of wapiti. We look forward to B11s joining Deer Select.

John Falconer, President, NZ Elk & Wapiti Society

The Editor replies: Thanks for sharing your concerns. The article in question was labelled as a "Supplied article". These contributions feature the opinions and unique perspectives of those who provide them. From time to time *Deer Industry News* runs these articles as space allows but, when used, will label them more clearly in future as opinion pieces. In the meantime, a sampling from the new Deer Select wapiti sire summary can be seen opposite on page 20 of this issue. Please note the rankings within the wapiti sire summary are not directly comparable with those of European/composite or English red deer. ■

Venison update

Production

The national kill for the 12 months ending September 2016 was 317,940, down 19% year on year (Table 1). Production for the 12 months ending September 2016 was 17,687 tonnes (carcass weight equivalent), down 17% year on year (Table 3). The kill in September was down 25% with production down 22% versus 2015. The total number of hinds killed in the 12 months to September 2016 was 159,945, equating to about 50% of the total kill and down 24% year to date (Table 2).

Total exports

Total venison exports for the 12 months ending September 2016 are recorded as 12,905 tonnes, down 13% year on year (Table 4, page 24). The value of these exports was $164 million, down 6% versus 2015.

Over the past 12 months, large decreases in export volumes have been observed into the Netherlands and Germany, down 36% and 34% respectively, reflecting the tight supply seen in 2016.

While the supply situation is constrained, there have been increases in exports into two largely non-seasonal markets, the United States and United Kingdom, up 7% and 13% respectively.

The average FOB sales price per kg over the past 12 months increased by 9%.

Table 1: Deer slaughter by month (numbers) – 12 months to September

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	% change
October	37,379	41,564	52,207	48,909	44,118	38,312	-13%
November	51,820	54,064	51,337	47,356	46,693	44,966	-4%
December	46,516	39,047	36,972	37,589	37,251	36,655	-2%
January	40,473	44,881	45,021	42,406	43,369	35,202	-19%
February	38,958	50,860	41,258	42,767	41,517	30,951	-25%
March	49,730	41,711	46,683	47,515	44,509	36,889	-17%
April	31,019	24,066	33,830	33,246	27,255	19,779	-27%
May	25,751	24,052	27,345	23,820	18,722	11,971	-36%
June	22,085	19,981	20,582	24,568	21,403	15,859	-26%
July	19,377	20,566	26,193	25,576	19,129	12,000	-37%
August	20,743	23,454	21,125	19,576	17,822	13,277	-26%
September	30,661	22,535	28,436	27,064	29,485	22,079	-25%
12 months to September	**414,512**	**406,781**	**430,989**	**420,392**	**391,273**	**317,940**	**-19%**
September	**30,661**	**22,535**	**28,436**	**27,064**	**29,485**	**22,079**	**-25%**

Table 2: Slaughter split by hinds and stags – 12 months to September

	% split of herd YTD	No. slaughtered YTD	% change September 2015/16	% change YTD 2015/16
Hind	50.3%	159,945	-38%	-24%
Stag	49.7%	157,995	1%	-11%

Chilled exports

The total volume of chilled exports increased by 6% and value increased by 10% year on year, reflecting the success of exporters developing and growing non-seasonal markets (Table 5, page 24).

Overall, chilled exports made up 19% by volume and 33% by value of total venison exports in the 12 months ending September 2016.

Throughout the past 12 months, exports have grown into the United States with volume up 15% and value up 20%. Increases were also recorded for Germany, Belgium and France.

Chilled exports were down for just over half of markets, with the Netherlands down the greatest volume (23%); value remained unchanged.

Schedule, currency movement and market observations

At the start of October, the national average published schedule for AP Stag peaked for the season at $8.90/kg, up 2% on the same period in 2015 (Figure 1, page 25).

For the week commencing 21 November, the national published schedule was $7.90/kg. The schedule is up 2% on last year as

Table 3: Venison production by month (tonnes)

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	% change
October	2,043	2,324	2,925	2,666	2,413	2,075	-14%
November	3,011	3,127	2,994	2,738	2,651	2,552	-4%
December	2,634	2,274	2,128	2,124	2,117	2,112	0%
January	2,341	2,616	2,639	2,639	2,479	2,057	-17%
February	2,223	2,943	2,364	2,449	2,346	1,820	-22%
March	2,729	2,297	2,547	2,574	2,382	2,015	-15%
April	1,632	1,290	1,770	1,780	1,415	1,036	-27%
May	1,334	1,256	1,412	1,244	975	629	-35%
June	1,153	1,045	1,049	1,291	1,101	853	-23%
July	1,027	1,103	1,346	1,316	993	629	-37%
August	1,114	1,265	1,091	1,012	936	691	-26%
September	1,680	1,273	1,508	1,434	1,565	1,218	-22%
12 months to September	22,920	22,812	23,773	23,266	21,374	17,687	-17%
September	1,680	1,273	1,508	1,434	1,565	1,218	-22%

it enters the traditional decline in line with the close of chilled production for European orders. Production is now largely servicing lower-priced frozen orders; however some exporters are airfreighting chilled orders. Over the past 12 months the NZD has steadily strengthened against the USD and euro. At the close of the financial year the NZD was up 13% against the USD and euro year on year. This continued strengthening of the NZD has limited the increase seen in the schedule over the past few months. The Reserve Bank Governor Graeme Wheeler released a statement in early November saying a decline in the exchange rate is needed:

"The weak global conditions and low interest rates relative to New Zealand are keeping upward pressure on the New Zealand

continued on page 24

Venison: continued

dollar exchange rate. The exchange rate remains higher than is sustainable for balanced economic growth and, together with low global inflation, continues to generate negative inflation in the tradables sector."

Exporters observe solid demand out of the United States, particularly for items such as trim, shanks and flanks destined for further manufacturing.

European demand for New Zealand venison middles is strong, with demand for shoulders and legs seen as being solid at present. Exporters comment that interest from European customers wanting to secure frozen venison for the new year is strong, resulting in favourable pricing, which should be up on the start of 2015 in euro. ■

Table 4: Top 10 New Zealand venison export markets by volume and value – 12 months to September 2016

Market	Volume (mt)			Value (NZ$FOB, millions)			Ave $/kg		
	2015	2016 (p)	change	2015	2016 (p)	change	2015	2016 (p)	change
Germany	4,582	3,036	-34%	$52.6	$41.4	-21%	$11.5	$13.6	19%
United States	2,409	2,571	7%	$25.0	$28.0	12%	$10.4	$10.9	5%
Belgium	1,354	1,092	-19%	$19.8	$18.4	-7%	$14.6	$16.9	15%
Finland	1,107	915	-17%	$7.5	$7.1	-5%	$6.8	$7.7	14%
UK	1,081	1,221	13%	$10.4	$12.8	23%	$9.6	$10.5	9%
Netherlands	1,059	683	-36%	$19.5	$15.1	-23%	$18.4	$22.0	20%
Switzerland	925	675	-27%	$14.8	$12.4	-16%	$16.0	$18.4	15%
Sweden	508	451	-11%	$4.7	$4.9	6%	$9.2	$11.0	20%
Canada	338	370	9%	$3.4	$3.7	10%	$9.9	$10.0	1%
Other	1,501	1,891	26%	$16.8	$20.7	25%	$11.1	$10.9	-1%
Total	**14,864**	**12,905**	**-13%**	**$174**	**$164**	**-6%**	**$11.71**	**$12.74**	**9%**

Table 5: Top 10 New Zealand chilled venison export markets by volume and value – 12 months to September 2016

Market	Volume (mt)			Value (NZ$FOB, millions)			Ave $/kg		
	2015	2016 (p)	change	2015	2016 (p)	change	2015	2016 (p)	change
United States	574	661	15%	$12	$14	20%	$20.7	$21.6	4%
Germany	452	562	24%	$9	$12	26%	$20.9	$21.2	1%
Netherlands	441	339	-23%	$10	$9	0%	$23.0	$25.6	11%
Belgium	400	467	17%	$8	$11	25%	$21.1	$22.5	7%
Switzerland	156	130	-17%	$4	$4	-17%	$28.0	$27.9	-0.3%
UK	134	125	-7%	$2	$2	1%	$13.7	$14.8	8%
France	95	123	29%	$2	$2	41%	$17.7	$19.3	9%
Canada	63	62	-2%	$1	$1	-17%	$22.5	$19.0	-16%
Australia	14	12	-14%	$0	$0	0%	$29.3	$29.2	-0.4%
Other	21	16	-24%	$1	$1	-14%	$30.0	$33.8	13%
Total	**2,350**	**2,497**	**6%**	**$50**	**$55**	**10%**	**$21.40**	**$22.14**	**3%**

Venison sandwiches a big hit

The US trial launch of a venison sandwich in popular deer hunting states by quick-service sandwich chain Arby's has been a huge success.

ARBY'S IS THE second-largest chain of its type in the United States in terms of units, and third in terms of revenue. Its 2014 revenue was US$3.26 billion, from 3,300 outlets served by 74,000 employees. The chain is not only selling out of the venison sandwiches; it has also created viral media coverage.

The Arby's venison sandwich features a thick-cut Cervena venison steak from the hind quarter and crispy onions with a berry sauce on a toasted roll. The sandwich is part of the "It's Meats Season" campaign, which celebrates the start of hunting season.

"Bringing venison to our menu allows us to continue to set ourselves apart from the competition when it comes to proteins – you simply can't find this at other restaurant chains," says Rob Lynch, Arby's Brand President and Chief Marketing Officer. Lynch acknowledges that the idea "is probably the biggest stretch for us yet", but adds that the venison sandwich is "incredibly delicious".

The new sandwich is being offered for a limited time at 17 Arby's restaurants across the country. Locations were chosen in heavy deer hunting areas in Wisconsin, Minnesota, Michigan, Pennsylvania, Tennessee and Georgia.

Customers queue patiently to try the new Arby's venison sandwich, being trialled at 17 US outlets. Photo: Arby's

Media coverage of the launch by more than 25 outlets was dominated by overwhelmingly positive coverage of the Arby's venison sandwich. A quote from Forbes characterises the coverage and apparent success of the promotion. "Arby's has figured out how to market venison – and has created a phenomenon."

It's all about the meat: The Arby's thick-cut venison steak sandwich has been a big hit. Photo: Arby's

According to *The Tennessean*, the first store in Nashville sold out of the new sandwiches on the first day of the promotion, selling 250 of them in just hours. Another store sold more than 100 sandwiches in just over an hour. "We struck a nerve, in a good way, with hunters," says Luke DeRouen, Director, Brand Communications and Content at Arby's Restaurant Group. "Some people drove from an hour away to try it."

Mountain River Venison and Mountain River Processors have worked with their in-market partner, Terra Pacific Marketing, on this opportunity over the past eight months, refining the venison steak specification for Arby's. DINZ's Los Angeles-based representative, Nigel Morris also helped with coordinating and supporting elements of product development.

Developing a cut for a quick service chain such as Arby's, which needs to be able to replicate the sandwich from store to store, means quality control is paramount. The team have worked hard to develop a cut that worked for processing, back of house in the restaurants and also gave diners a great meal. "It certainly is a great vote of confidence for Cervena venison and should inspire more restaurant operators to be a little more adventurous!" says Angus Cleland, Director of Terra Pacific Marketing. If consumer response to the trial promotion is favourable, it's likely to be rolled out to further cities in 2017. ■

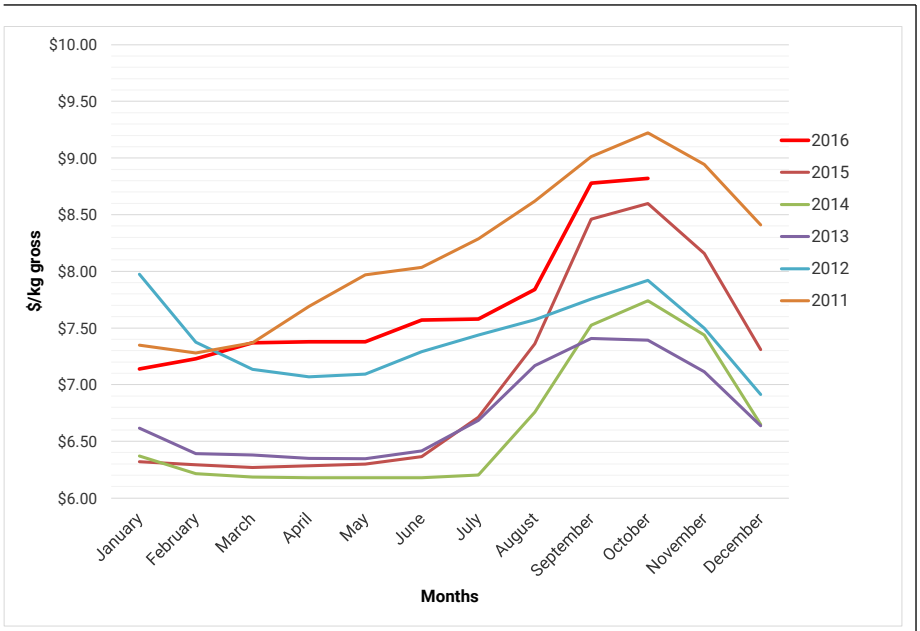


Figure 1: National published schedule: 2011–2016 AP Stag

Velvet update

A standoff between importers and exporters on what price to start the season off on has put the velvet industry on edge as tensions rise with only small volumes traded as of 28 November. Additionally, a changing Chinese regulation will affect importers of New Zealand velvet, causing further pressure at this important time.

AT THE TIME of writing (late November), tensions were high. New Zealand freezers were rapidly filling up and only small quantities had been committed to by the usual importers. Exporters had been holding off to get the best price for farmers, and pressure was mounting in some areas to get the season underway. While fundamental market indicators pointed to a softening in prices that reflected a change in currency variation between the seasons (Figure 1) and jelly tip prices dropping, New Zealand's main exporters remained hopeful of a season that shouldn't drop too far.

However, activity by one or two traders in the markets resulted in hesitation by others to commit, with concern that this activity may drop prices and devalue inventory. There have been arguments put forward by several traders in an attempt to drive down prices, including that New Zealand will produce 700 tonnes of velvet this year – a figure that is significantly higher than our estimates.

Changing Chinese regulations that affect velvet

China is going through significant changes generally to improve the safety of many of its domestic and imported food products. Velvet will now need to be imported as a Traditional Chinese Medicine (TCM) ingredient, which will require a new set of measures. These new measures and the way that velvet now generally has to be handled in China have triggered hold-ups for issuing of import permits. As velvet needs to be imported as a TCM ingredient, importers/processors must hold a pharmaceutical trading licence. This involves a lengthy approval process and a processing facility that meets traditional pharmaceutical requirements. Failing to meet these standards has resulted in the refusal to grant new import permits to any importers to date (although DINZ understands that one or two facilities may comply with the new requirements). Reportedly, there is still some quota left on existing permits that is moving through normal channels slowly into China.

This situation is constantly evolving and by the time you read this, the situation will have likely moved on.

At the New Zealand end, MPI is working with its Chinese counterpart to ensure that the way New Zealand velvet is produced, removed, transported, processed and exported meets Chinese law.

In mid-November, a team of Chinese government officials came to audit the New Zealand velvet industry. The Ministry for Primary Industries (MPI) report that the Chinese regulators were generally

DFA Chairman David Morgan (back left) with the KGC delegation at Raincliff Station.

impressed with what they saw. However, as expected there will likely need to be some changes to ensure that velvet exported to China complies with Chinese law. New measures will take time to be agreed and finalised, although MPI thinks they would likely be implemented by the middle of next year (ideally around the quieter period).

Reportedly the Chinese auditors will roll out the new measures to other velvet supplying countries, now they have a better understanding from the world leaders in velvet production.

Many thanks to all those who worked with MPI to ensure the audit went as smoothly as possible. Particular thanks go to the team at Peel Forest Estate, who hosted a lunch for the delegation, providing some great Kiwi hospitality.

While the slow start to the season is frustrating and the lack of new import permits being issued in China is concerning, it is important to note that New Zealand's largest consumer for velvet is Korea. DINZ estimates that 60–65 percent of our velvet production ends up consumed in South Korea and the underlying demand in both China and Korea appears stable. Although many Korean importers were holding off committing at the start of the season, many will need to make arrangements to start processing in the new year for the peak consumption period.

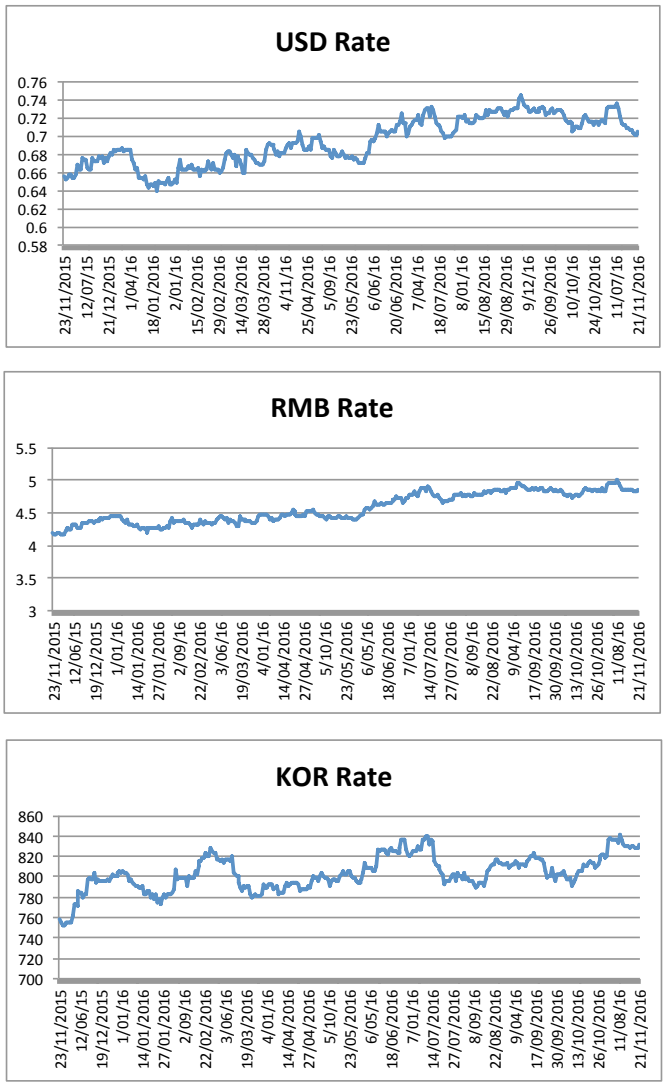
Velvet promotion continues

As a part of a wider Chuseok (Korean Thanksgiving) promotion, Deer Industry New Zealand assisted Korean food giant Korea Ginseng Corporation (KGC) with a sales promotion for its successful product, Cheong-nuk-sam. Twenty-one of KGC's top sales and senior marketing staff came to visit the country of the product's premium ingredient. As part of the New Zealand industry's contribution – to ensure a deer connection – the winners of the promotion must try New Zealand venison and visit a deer farm during their travel. KGC's Marketing Manager reported another successful year's sales of Cheong-nuk-sam.

Magnificent backdrop for filming at Remarkables Station.

Huge thanks go to NZDFA Chair, David Morgan, for hosting the group with an amazing educational experience on Raincliff Station. David and son Brychan had prepared well to showcase their new yards along with some magnificent stags in full velvet for the farm tour.

Figure 1: A significant increase in the New Zealand dollar against our main velvet market destinations, versus the same time last year.



Source: http://www.nzforex.co.nz/forex-tools/historical-rate-tools/historical-exchange-rates

Improving New Zealand velvet brand positioning in Korea

Other work continues in Korea's healthy food market with the visit by Korea's highest profile celebrity Oriental Medicine Doctor, Dr Lee. DINZ assisted PGGWrightson who hosted a celebrity duo, along with 12 other members of their delegation. PGGWrightson had organised spectacular farms for the filming to be shot – promoting a product that will now contain New Zealand velvet. The product was launched two years ago, achieving significant success. The longer-term impact of the visit will benefit the wider New Zealand velvet industry. The marketers, film crew and celebrities left with a positive view of New Zealand velvet and great promotional stories to tell Korean consumers. Many thanks to those who were involved for making the visitors feel so welcome.

Top chefs head-to-head

by Alison Spencer, *Deer Industry News* writer

Two top chefs are now head to head, vying for the Best Venison Dish in this year's Silver Fern Farms Premier Selection Awards.

THEY ARE CHEF/OWNER of Feilding's *Amayjen– The Restaurant*, Andrew May, and Greg Piner, group chef for Dunedin's *Vault 21* restaurant. The two are among a dozen finalists in the high-profile New Zealand culinary competition run by New Zealand's largest meat processor Silver Fern Farms.

Before returning to New Zealand, Andrew May spent a considerable part of his career working in fine dining establishments in Scotland and other parts of the United Kingdom.

"In Scotland, I had the pleasure of using lots of game meat," he says. "In New Zealand, Silver Fern Farms venison has been one of my favourite meats to use because of its flavour and consistency."

Greg Piner loves working with the Silver Fern Farms team, who he says are passionate about their product. He believes the company's "Plate to Pasture" strategy resonates with his diners.

The winner of the venison dish category will also go on to contend for the supreme award, the Premier Master of Fine Cuisine, in the annual competition.

All of the 73 entered dishes – a record number this year – had to be an original creation using one of Silver Fern Farms' venison, lamb or beef cuts. The red meat had also to be the "hero" on the plate. The dishes featured on restaurant menus over five weeks in September and October, giving both judges and diners the opportunity to sample the delicious creations.

Judges travelled from Paihia to Winton, tasting and scoring the dishes based on presentation, meat cookery, complementing elements, taste and texture, creativity and dish promotion.

Judge coordinator Kerry Tyack says the use of creative cuts and innovative techniques separated the best chefs from the rest by the smallest of margins.

The finalist restaurants are spread from Waiheke Island to Ophir, where diners can still experience the dishes until the end of February 2017. Tyack and co-judge Tony Adcock will revisit them all before Christmas to re-judge the dishes.

Silver Fern Farms general manager marketing, Sharon Angus, says the diversity in the dishes this year was outstanding, with many chefs making use of the less-obvious secondary meat cuts.

The winners of the five categories – Best Venison dish, Best Beef dish, Best Lamb dish, Best Metropolitan and Best Regional – will be unveiled in Auckland on 8 February 2017, where the supreme winner, the Premier Master of Fine Cuisine, will also be named.

- For a full list of finalists and their dishes: www.silverfernfarms.com/for-our-chefs/premier-selection-awards ■

Andrew May's spectacular venison dish used Silver Fern Farms venison tenderloin encased in a truffle and trumpet mousse, with beetroot, Silver Fern Farms Shank risotto cake, cranberry gel, celeriac remoulade, fondant pot, shallot, kale, seasonal vegetables and port wine and beetroot jus. The judges found it to be "very innovative ... well conceived and executed".

Greg Piner at Vault 21 in Dunedin created a dish centred on cured Silver Fern Farms venison short loin, accompanied by a trio of mushroom, pickled shiitake, cep puree, tempura needle mushrooms, compressed radish, ponzu, black truffle salt, pea tendrils and crispy shallots. "An excellent and innovative way of preparing venison, cured with palm sugar, kaffir lime and cloves," said the judges.

More dollars per kg by 2020s?

by Alison Spencer, *Deer Industry News* writer

Deer farmers could be earning more per kilogram of product from early in the 2020s, thanks to an exciting new research project given the green light in September.

THE MINISTRY FOR Business Innovation and Employment (MBIE)'s September Endeavour Round approved $4.25 million of funding for a five-year project looking into the objective measurement of venison, lamb and beef on the meat plant processing line.

Dr Cameron Craigie who is leading the meat science team looking into a meat quality measurement sensor platform.

Dr Cameron Craigie, AgResearch science impact leader for meat products and supply, is leading a team of eight meat scientists involved in the project. Work started on 1 October drawing up contracts with the various bodies involved in the work.

The project team will work closely with the meat industry and will partner with the Dodd-Walls Centre for Photonic and Quantum Technologies at Otago University, along with post-graduate researchers from there and the University of Auckland, plus Callaghan Innovation, Scott Technology Ltd and the University of Leuven in Belgium to research and develop the sensor technology.

Previously meat quality measurement of attributes such as tenderness, intramuscular fat and ultimate pH have had to be handled separately, off the processing line, and can be quite expensive. This work will take everything back to basics, says Craigie.

"We are designing a meat quality measurement platform testing a combination of rapid non-invasive sensors to measure pH, texture and fat content while the carcass is still on the processing line," he says.

Plans for the rapid and cost-effective technology are for it to also give feedback of useful meat quality data directly from the processor to farmer suppliers. In theory, this should help deer producers understand cause and effect on farm, resulting in premium prices being achieved for producing a better meat. It will also capture financial benefits in New Zealand.

Although work to date has been done on lamb, the technology can easily be developed for use on venison and beef processing lines.

DINZ chief executive, Dan Coup, who supplied a letter of support for the project, says development of a technology that allowed processors to instantly assess meat quality and provide a guaranteed eating experience would be fantastic for a product like Cervena. "We would love to be able to give the consumer a cast iron assurance around tenderness and flavour." ■

Processing adjusts to flows

by Alison Spencer, *Deer Industry News* writer

Two recently announced changes for Southland venison processing suggest the region's facilities are adjusting to livestock flows and providing better support for deer farmers.

IN EARLY OCTOBER, Alliance Group announced from the middle of next year it will be processing venison previously handled at its Makarewa plant near Invercargill at a major new deer processing facility at its nearby Lorneville plant.

Confirming the cooperative's commitment to the New Zealand deer industry, Alliance chief executive David Surveyor says the development has been facilitated by the sale of land at Makarewa.

The new Lorneville processing facility will be a new, world-class facility that will result in a more than 30 percent reduction in Alliance's deer processing costs, he says.

David Surveyor confirms Alliance Group's commitment to the deer industry.

While the cooperative declined to divulge further details about its internal costs, citing commercial sensitivity, general manager processing Kerry Stevens confirms that the venison processing plant will be configured to take advantage of current best practice and technological innovations that may also become available in the future.

"The detailed design phase of the project is currently underway, so we are still finalising the processing plant's plans. However, it will be located on the site of our former beef processing facilities at Lorneville," he says.

Surveyor says Alliance is delivering on its strategy to continue investing in the future, reduce costs, ensure world-class facilities and reinforce its role as a leader in efficient processing.

Dean Hamilton: Offering improved service by operating fewer plants for longer.

The new facility is expected to be operational in July 2017, with all deer processing set to continue at the Makarewa site in in the meantime. All current Makarewa employees are being offered roles at Lorneville.

Meanwhile, after consultation with staff, Silver Fern Farms has also confirmed the closure of its small Mossburn venison plant, part way between Gore and Manapouri.

"With changing livestock flows, there is the opportunity for the company to become more efficient and offer our farmer suppliers improved service by operating fewer plants for longer during a season," explains Silver Fern Farms chief executive Dean Hamilton.

Silver Fern Farms deer suppliers are now sending stock to its Kennington plant, near Invercargill. Employees have been given the option to work at the company's Waitane plant near Gore, Kennington or Finegand (Balclutha) sites and have been helped through the transition by a resource centre set up at the site.

Processing has also just started at the company's new $5 million venison plant at Pareora, in South Canterbury, which services the upper and central South Island. ■

Deer farming couple named top South Island farmers

by Mike Bradstock, *Deer Industry News* writer

Deer farmers are once again leading the way, with Fairlie farmers Neil and Lyn Campbell taking the 2016 South Island Farmer of the Year title.

South Island farmers of the year, Neil and Lyn Campbell: Introducing a more flexible stock policy has paid dividends.

THEY FARM AT Middle Valley, near Fairlie in South Canterbury, where they have a mixed operation including sheep, beef, bulls, deer and arable crops. The 767 hectare farm (750 ha effective) also includes forestry.

Diversity, flexibility and adaptability are important aspects of their operation, he told *Deer Industry News*.

Though they have kept a diverse operation, with some deer since 1996, the big change came in 2007 when he did an in-depth study of the sheepmeat industry as part of a Kellogg course.

"We had become very dissatisfied with sheep and decided that the issues weren't new so we had to make changes.

"A SWOT analysis pointed out the greatest weakness was a combination of poor financial years and drought, and we needed a more flexible stock policy to mitigate this. Part of the solution was more trading stock but we also identified deer as a strength as they were a very good fit for our higher-altitude land, from 350 to about 580 metres.

"So we moved the sheep down and changed the stock ratio accordingly and this had two particularly beneficial outcomes. It eliminated the serious lamb losses in spring and during cold snaps, and produced a huge improvement in the traditional spring feed demand. The hinds were a much better fit and we were able to finish them earlier, with 90 percent away by early November."

While lifting deer numbers, sheep and cattle numbers have declined accordingly, though a flexible stock mix remains crucial to the operation, Neil said. This year they wintered nearly 1,500 deer including 450 mixed age hinds, 550 mixed-sex R2s, 420 mixed-sex R1s and 13 sire stags. A total of 1,250 sheep were wintered, along with nearly 1,000 cattle including R1 heifers and beef calves/bulls, cull dairy cows for fattening and pregnant carry-over cows. The vast majority of these have now been slaughtered or onsold.

Improving feed production has been another success story and they are total believers in fodder beet as a valuable and economical source of quality feed for all stock that really comes into its own during the shoulder seasons, Neil said. "Last season we grew 56 hectares of beet and this will increase – it's enabling us to sell our stock much earlier than in the old days when we sold everything between December and April."

Another dimension of the farm's diversity is growing 100 hectares of autumn-sown cereals and seed crops on the lower country.

All this has helped cope with the challenges of the site, in particular the uneven rainfall, which averages 750mm in the tops and 650mm lower down but is prone to big fluctuations between years.

Environmentally Neil and Lyn have made some changes too, following the preparation of a comprehensive farm environment plan. There are no permanent waterways on the property and the base leaching level is low, so the main issue is sedimentation in the deer paddocks. "We have planted a lot of suitable natives to filter out this sediment, and they're doing well. However, they're relatively slow-growing compared to many exotics, so we're keeping up with spraying weeds around the plantings for at least three years to give them a good start."

They have also been strong on making the most of EID: "We try to measure everything we can to help inform stock decisions, and this has really helped with the deer."

Their award comes with a $20,000 grant for travel, and while they haven't yet decided exactly how they'll use it, Neil is adamant that learning more about fodder beet will be high on the agenda.

"Europe and Britain have grown fodder beet for hundreds of years and they should be able to help us to produce higher yields, faster and more cheaply. As for where to go to learn more about deer, we'll be taking advice from people who have travelled before to study deer."

Other possibilities include looking at bringing in some kind of livestock equity partnership. "We're losing too many high-calibre sheep-and-beef managers to the dairy industry and we'd like to see that trend halted. Offering equity shareholding may be a good way to recruit and retain better staff." ■

The Campbells have lifted deer numbers and reduced numbers of sheep and cattle. Photo: Lyn Campbell.

Chilled market growing, but supply a constraint

by Phil Stewart, *Deer Industry News* Editor

While overall venison export volumes are down because of restricted supply, the high-value chilled sector continues to enjoy steady growth. That was one of the key messages from a report to branch chairs by DINZ Venison Marketing Manager, Marianne Wilson.

CHILLED SALES NOW account for 20 percent of all venison exports, and chilled volumes have increased in the United States, Belgium and Germany. Wilson said all stock in the market appears to have been consumed and there is minimal carryover, clearing the way for this season. Some in-market partners were very buoyant, although others were concerned about the market reaction to supply-driven higher prices.

The year's $1.2 million DINZ venison promotions programme was made up mainly of account development in Europe ($250,000) and the United States ($300,000) and joint promotion work ($400,000). The remainder was apportioned to New Zealand trade sponsorship and consumer PR, chef resources, travel and general marketing materials, Wilson reported.

Graham Brown had recently been in Sweden, working in both retail and foodservice channels. "Our in-market partners were thrilled to share that this translated into strong sales very quickly," Wilson said.

Graham Brown's instore work promoting New Zealand venison in Sweden translated quickly to strong sales.

The venison promotional programme focuses on two key strategic areas: maintaining the premium positioning of New Zealand venison and developing and diversifying markets. In terms of maintaining premium positioning in Germany, this year DINZ will undertake events in conjunction with organisations like NZ Trade & Enterprise and NZ Wine.

Locally, venison was being profiled in the media through collaborations with chefs Neil Brazier (see October/November *Deer Industry News*) and Tom Hishon. With a fairly modest budget for domestic promotion, DINZ focuses on leveraging its relationships and gaining coverage in the media through working with selected chefs, relationships with groups like the New Zealand Guild of Food Writers and the NZ Chefs association, and via events such as the Pinot Noir conference.

In the United States, DINZ's full-time representative Nigel Morris has been busy working with customers and throughout the supply chain from exporters to distributors. He recently spent three weeks teaming up with Graham Brown to work with specialty food store Marx Foods in Seattle, the Epicurean Project in Houston Texas and 150 students at the College of Culinary Arts, Johnson and Wales University, Denver Colorado.

The second year of the P2P summer Cervena programme in Europe had gone well, with Firstlight, Alliance and Silver Fern Farms working in the Netherlands and Belgium. The target of 80 tonnes of chilled venison hadn't been reached this year (around 50 tonnes was sold), but the programme was going well and would continue in 2017, Wilson said.

The P2P in-market work was "both exciting and challenging" Wilson said. Between the five New Zealand exporters there was a range of brands and strategies, but while short supply was a constraint now, Wilson said the programme allowed new markets to be tested, which positioned the industry well for when the supply situation improved.

Market development in China would not be easy but DINZ was now working with Mountain River Venison on a programme involving three different trials in high-end markets to understand the market opportunity further. This work was due to wrap up in April 2017. ■

Marianne Wilson reports to branch chairs.

Cautious start to velvet season

by Phil Stewart, *Deer Industry News* Editor

It was too early to say how the 2016/17 season would pan out for velvet when Rhys Griffiths, DINZ Market Manager – Asia, spoke to branch chairs. Overall average market prices could soften this season, but the annual manoeuvring in markets was still in its early very stages.

DURING A LATER Q+A session, Tony Cochrane (PGG Wrightson) and Ross Chambers (Provelco) said early signals from the market had been cautious and trade would probably start more slowly than we would like. Cochrane said the NZ dollar had appreciated 15 percent against the US dollar since this time last year, and by 7–8 percent against the Korean won. Cochrane said a lot of buyers were waiting for someone else to make the first move. "But they're like sheep going through a gate. Once the first one goes they all follow."

Griffiths said New Zealand production had climbed to about 600 tonnes, a fairly modest increase on the previous year. DINZ was budgeting on 620 tonnes for 2016/17.

Some at the meeting were concerned that publishing production forecasts would put New Zealand producers at a disadvantage in the markets. Griffiths said that on balance it was better to have the forecasts in the public domain. If there was an information vacuum it would be easier for customers to create rumours of much higher New Zealand production levels, thus putting downward pressure on prices.

Stockpiles in China had not grown and new market development was progressing well. On the other hand, North American production had risen slightly, although production in China was reported to be back slightly. "The growth [in New Zealand production] is a good thing, but it needs to be monitored," Griffiths said.

Despite the cautious start for the season, overall velvet prospects remain positive.

Several other factors were at play in the markets this year. There was downward pressure on prices for "jelly tip" in China and the crackdown on corruption and gift giving was having an impact on sales of expensive gift packs. Controls on gift giving had also been introduced in Korea, although this wouldn't affect gifts between friends and family members.

Griffiths warned that traders profited from market game-playing and volatility, and urged velvet producers to support those who had invested in the market.

New regulatory hurdles were a constant challenge in both China and Korea, he said. DINZ had been helping velvet exporters register online with Korean food safety authorities, a daunting task. "MPI has complimented us on the way we have adapted to the new system."

There were also regulatory hurdles for the China market, with a general crackdown on food safety. Traditional Chinese medicines were in the spotlight and Griffiths said eventually product might need to be traceable to individual farm level. Officials from the Chinese General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) were scheduled to visit New Zealand in mid-November to audit the velvet supply chain. Griffiths was confident the industry was well prepared for this. He said that MPI appeared impressed with the National Velvetting Standards Body (NVSB), which had increased its focus on food safety recently.

Griffiths pointed to several positive factors:

- All US and Canadian product is sold.
- Chinese product appears to be selling well.
- The New Zealand brand is gaining strength and our velvet is becoming more desirable than Russian or Chinese product.
- We are lifting our "Country of Origin" marketing effort with the development of a holographic sticker to identify New Zealand product (already being used by two marketers in Korea). (In addition, VARNZ has approved a three-year development programme for a country of origin verification tool using isotopic signatures.)

DINZ had done a promotion for the mid-September Korean autumn harvest festival, Chuseok, again focusing on the luxury Cheongnuksam product produced by Korean Ginseng Corporation (KGC). A 30-day Cheongnuksam course retails for $US450. KGC sales for this product had matched last year's by June, and by September the sales were double last year's. Another high-end product, a type of velvet "ball" was selling for $US100 each.

"These products are selling really well," Griffiths said. He had special praise for the support from New Zealand's Ambassador to Korea, Clare Fearnley (see report in October/November *Deer Industry News*, page 24).

Overall, Griffiths said prospects remained positive, noting that a lot of New Zealand-processed product is now being sent to Korea. While the food sector was a big priority, attention was still also being focused on the oriental medicine sector.

- For an updated market commentary see the Velvet Market Report on page 26. ■

Reality check from NVSB

by Phil Stewart, *Deer Industry News* Editor

You've been doing OK and we are seen as being progressive on welfare, but please don't rest on your laurels. That was the message to branch chairs from National Velvetting Standards Body (NVSB) Chair, Ian Scott.

SCOTT SAID THE industry had been doing well in its level of compliance with NVSB standards, but the boundaries of acceptability were constantly changing and the industry needed to keep ahead of the expectations of both our markets and society.

"We need to see what we do through the eyes of someone from outside the industry. As auditors, we look at velvetting as someone who has never watched it before.

"You would be hard pressed to convince someone from outside the industry that velvetting is something deer *want* to do. Just because something was acceptable 20 years ago doesn't mean it will be acceptable today."

The bar on things like hygiene and effluent management needed to be raised incrementally and continuously. "Even the state of your floors can be an issue. While bugs may not be able to get from there onto your velvet, remember it's a food product. Would you be prepared to eat a meal in there?"

He said NVSB would be looking closely at pain management and analgesia. "Just because a stag starts grazing straight away after velvet removal doesn't mean there is no pain. There are also complex sociological processes at play when a stag has had his antlers removed – he could then be subject to bullying. Remember velvetting is a surgical process and we need good pain control and haemostasis. Science needs to help us identify the levels of pain and how it can best be managed."

Scott said developing deer antler was a unique form of tissue growing from stem cells and there were unknowns about how this affected pain as the cut healed. He said it was better for the industry to find answers to these questions than for the world to make decisions on behalf of the industry.

The velvet sector needed to work in support of efforts in the venison markets, as well as the industry's welfare and environmental objectives.

While the industry has been recognised by the National Animal Welfare Advisory Committee as being out in front on welfare matters, "we need continual, incremental change to continue to be leaders," Scott said.

NVSB Chair, Ian Scott, reminded Branch Chairs that the bar for standards in the industry is constantly being raised.

He was quick to pour cold water on a suggestion from the meeting that the annual supervisory visits for accredited velvetters could be extended from annual to biennial. If anything, trends were in the opposite direction.

(An audience member noted that venison processing plants are being audited every day.)

While overall compliance with NVSB standards was good, there were still areas for improvement, such as in the correct application of ties or rubber rings.

"The supervisory visit is an educational one," Scott said. "Take advantage of that. It's also important to keep vets involved in what you're doing. We need to keep them, especially young deer vets, up to speed with what's happening on farm."

Plenty of P2P action to report

The Passion2Profit (P2P) programme is 15 months into its seven-year run and a solid start had been made on both the market and farm sides, reported P2P Manager, Innes Moffat. He told branch chairs that the programme was working to repackage information and get it to farmers in forms that were of most use to them.

AS WELL AS the Advance Party programme, Moffat listed several of the new ways this was happening:

- Updating of the DINZ website **www.deernz.org** and optimising it for access via mobile device.
- Getting farmer information into the press.
- "How to" video tutorials on productivity-related tasks such as body condition scoring or using the P2P growth curve charts.
- A new electronic newsletter, *Breeding, Feeding Healthy Deer*, which acts as a gateway to a plethora of up-to-date information on improving productivity.
- Creation and expanding of the *Deer Facts* series (also useful for non-farmers involved in the industry, such as advisers and veterinarians).
- The Advance Party annual workshop – much of the excellent information generated there is now on the Advance Party website **www.ap.org.nz**
- Regional workshops to get the wider farming community involved with their local Advance Party. These feature invited experts such as agronomists, and workshop sessions to pick over specific topics.

Staying on the rails

by Phil Stewart, *Deer Industry News* Editor

Andrew Duncan, CEO of Duncan New Zealand, reflected on the oft-mentioned venison schedule "tramlines" – currently between $7.50–$9.00 – and what it might take to divert to a more profitable line of between $8.50 (offseason) and $10.00 (peak season).

OVERALL THE DISTRIBUTION chain was already very efficient, with no "ticket clippers" present, he said. At plant level, however, there is surplus capacity, so more deer going through fewer plants would help.

Looking at the components of each deer carcass, he mused on what price upside potential there might be for each of them to add $1.00 to the schedule:

- **Venison petfood:** product volumes are small, but already priced high. Possibly room for +15c/kg given strong demand.
- **Skins:** World leather markets are currently depressed and the New Zealand industry has been through restructuring. Possibly +5c/kg on the schedule.
- **Co-products:** Anti-corruption measures in main markets have hit co-products and prices are already quite "toppy". No room for increased contribution.
- **Rendering material** (blood, head etc): Some potential to release value long term, but research needed first.
- **Frozen venison** (Europe): The frozen market is looking to strengthen, so a possible lift of 5–8c/kg on the schedule.
- **Cervena** (Europe): This is the big one and could contribute $1/kg over time, not just through chilled peak season product but also for its positive impact on the frozen market for the remaining 9 months of the year.

Duncan said the effect could be the off-season (frozen) price lifting more than the peak (chilled) price, thus raising prices overall, while reducing the gap between the "tramlines".

He said the company ventured into online selling in July this year, starting with a test market in New Zealand to find a formula that worked and could be taken to bigger overseas markets.

"We use existing logistics networks – distribution is a challenge with online sales."

Duncan said the venison is packed in recyclable chilltainers, a must for high-end consumers looking for sustainable packaging.

"It's an opportunity to create and test a business model and scale it up if we succeed. Having direct contact with individual consumers allows for excellent feedback and lets us target them via social media. The repeat purchasing is the key."

Maintaining supply when there was a product shortage was an ongoing challenge, but did allow an opportunity to focus on the best customers.

Duncan said achieving year-round consumption would allow much more efficient use of plant.

The "buy local" focus in some overseas markets created a headwind for our exports, so the value of New Zealand as a preferred origin would help overcome this.

Duncan said that where markets needed to be prioritised because of supply issues, those very seasonal markets where there was a lot of competition on price from other sources would be less favoured.

Currency fluctuations couldn't be predicted accurately. "We can only react." He said currency hedging and fixed-price contracts had some influence, and meant the effects of currency fluctuations could take a while to flow through.

Looking ahead, he urged the industry to keep on diversifying and resist the urge to revert to dependence on seasonal commodity markets. "We need to plan and forecast our supply growth so we can look after our customers better." ■

Moffat said there are now 23 Advance Parties with more than 200 deer farms directly involved. Ninety percent of the participants say they have made on-farm changes after joining, and 57 percent are planning to expand their deer operations – a promising sign.

Another development has been the commitment of the five venison processor/exporters involved in P2P, to a set of Industry Agreed Standards. These will be integrated with work being done by the Red Meat Profit Partnership on standards for sheep, beef and deer. It will be up to each company to audit their suppliers, and farmers who comply with one company's standards will be safe in the knowledge that they will thereby be complying with all five companies' standards.

The P2P programme will continue to encourage wider use of Deer Select and is developing a genetics planner to help stag purchasers map out their breeding objectives and priorities.

Moffat said farmers now have access to growth curve tools to plan and monitor the growth of venison finishing animals as well as replacement breeding hinds.

On the animal health front, the programme is developing a process for annual health reviews which will feature industry-agreed positions on various animal health matters. DINZ is working closely with deer veterinarians on this front.

While environmental management planning does not have a dedicated work stream within P2P, Moffat said it's widely recognised that sound environmental management goes hand-in-hand with productivity improvements. As a result, good advice on improving environmental performance is woven into other parts of the programme.

He said there is a need to keep farm advisers and veterinarians up to date on deer farming best practice, so some effort will also go into upskilling rural professionals through deer industry workshops.

The pilot programme for off-season chilled Cervena exports to Europe was going well, and Moffat said the eventual target for non-seasonal sales was 1200 tonnes per annum. To help achieve this, on-farm work would continue to focus on lifting daily weight gains through winter and reaching September liveweight targets. ■

Environment issues feature

by Phil Stewart, *Deer Industry News* Editor

Environment is shaping up as a key component of the Passion2Profit programme and the associated issues were given plenty of air time during the NZDFA Branch Chairs' Meeting in Wellington on 12 and 13 October.

Around the regions

DINZ ENVIRONMENTAL POLICY Manager, Lindsay Fung, pointed out that the regions where there have been large increases in nitrogen loads in waterways – Otago, Southland and Canterbury – are home to two-thirds of New Zealand's deer herd, so the national focus on these matters is important for the deer industry.

Because regulation is implemented through regional plans, that is where farmers need to concentrate their efforts, the meeting was told. Reports from branch chairs showed the process of regulating nutrient losses from farms is at widely differing stages around the country, with councils' approaches ranging from fairly benign to potentially very restrictive.

Andrew Peters (Taihape) said the Horizons (Manawatu-Wanganui) Regional Council had good practically minded representatives who were keen to help farmers get their farm environment plans in order.

That said, people were uncertain how waterway exclusion restrictions in hill country would play out – a concern shared by the Central Regions and other branches.

Matthew von Dadelszen (Hawke's Bay) said the Hawke's Bay Regional Council was pushing farmers to complete farm environment plans. He noted that the local body elections had also just delivered a council that was mainly opposed to the Ruataniwha dam project.

Grant Charteris (standing) workshopping environmental priorities for deer farmers.

Lindsay Fung said the Otago Regional Council (ORC) was not so concerned about farm-level activities but would be in with the "big stick" if there was any problem with the water coming from a property. Richard Currie confirmed that the ORC was committed to a fairly stringent compliance and monitoring plan, with a particular focus on management of winter crops and waterways.

The Canterbury regional planning process involving a regional plan and subregions being progressively added in was messy. Fung explained that before plans became operational there was a long process of notification, submissions and hearings, but engagement had been difficult for deer farmers. He said all farms would be required to have a farm environment plan in place and that's the way it will be going in other jurisdictions too.

Russell Rudd (Canterbury) said the N loss allocation rules were unfair based on the three year baseline figures. "Mine are set at 19kg N/ha, but some irrigated dairy farms are getting away with murder – [under grandparenting] they are being allowed from 60–90kg in some cases."

The Marlborough regional plan had been notified and included heavy restrictions around stock exclusion and also non-production-related values such as the marine environment. Justin Stevens (Marlborough) said the RMA process meant you could only object about parts of a plan you had submitted on.

The Southland plan had about 1,100 submissions so far, and included restrictions on intensification in some areas. Richard Cook (Southland) said fencing of waterways was still a grey area.

The Waikato regional plan was still to be notified and Fung was expecting the process to be "brutal" for farming. "The Canterbury regional plan will be pretty mild by comparison."

There were no big issues for Northland, although deer being lumped in with cattle was an ongoing problem. The Taranaki and Tasman/West Coast regions had no outstanding issues at this stage.

Fung said definitions around stock exclusion and impending regulations were a looming issue and MPI was to issue a consultation document on the matter.

"There is no intention at this stage to have mandatory stock exclusion [from waterways] on hill country with a slope of more than 15° unless there is cultivation going on."

Stock exclusion from waterways on flat land is expected by 2025 and on land sloping between 4–15° by 2030.

Fung said that regulating good management practices had been raised by central government, but fortunately MPI has offered a national accord as an alternative approach. Janet Gregory (Landcare Trust) is working with Fung, other industry bodies and regional councils in discussions on such an accord. She said the plan is to have something in place by mid 2017.

"There's been agreement in principle. The detail will take time. The good management practices developed from the Environment Canterbury 'Matrix of Good Management' Project, which the industry had input to, will form a base for this."

Fung said a $10m/year freshwater management fund would be available and the deer industry hoped to get a slice of this to help

implement good management practices.

"A lot of this approach with farm environment plans and good management practices will fit in with what you're already doing."

DINZ will be working through NZDFA branches in regions that have proposed regional plans or plan changes scheduled for notification – and Fung acknowledged there has already been some great leadership shown at branch level."

He said that while he would be acting on behalf of the industry to a point, it was vital for deer farmers – the people who would be personally affected by planned changes – to speak directly to regional plan hearing commissioners.

"This is your land values and your business at stake. About 80 percent of the national deer herd is in regions where land and environment plans will become compulsory, so it's important for you to get busy on this."

Going into bat for farming

Jacqueline Rowarth, who was due to start in her new role as Chief Scientist for the Environmental Protection Authority at the end of October, put up a spirited argument in defence of farm practices.

She said the value of "clean, fresh water" to tourism was over-stated, noting that the sector supported mainly low-wage jobs with much of the profits exported. While "industrial" or "intensive" farming had been hammered by public opinion, there was actually very little of that kind of agriculture in New Zealand, she said.

Rowarth said some environmental quality reports were based on poor and oversimplified data.

She was also critical of OVERSEER, saying that it was calibrated on only four monitoring sites around New Zealand. The program was more useful in relation to reducing greenhouse gas emissions.

She said sediment loading in water had gradually reduced in recent years as the most erosion-prone land had been taken out of production. The former catchment boards had helped stabilise soils and land that should never have been cleared in the first place was being allowed to revert. That said, the increasing frequency of intense rainfall events and higher stocking densities in some systems were risk factors.

Levels of nitrate in New Zealand waterways were actually very low by international standards and Rowarth said the OECD had rated the Waikato River as very clean. (Rowarth has made the same point in other forums and this stance has since been

Jacqueline Rowarth: Nitrate levels low in NZ rivers by international standards.

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Environment: continued

strongly criticised by Freshwater Sciences Society President Dr Marc Schallenberg, who said this claim was based on old data and misrepresented the actual state of the Waikato River today.[1])

Levels of phosphorus in New Zealand waterways were also very low by international standards and Rowarth said most campylobacter outbreaks did not originate in water (the Havelock North disease outbreak was "superficial" and related to only one water bore, she said).

While levels of faecal coliforms in waterways were elevated in flood events, "you don't go swimming during a flood".

Rowarth said there are still a lot of unknowns about nitrogen runoff and leaching in various conditions, or the effectiveness of different mitigations. Some, such as the creation of wetlands, were very expensive and could actually contribute to higher methane and nitrous oxide emissions, while water fowl contributed to higher levels of *E. coli*. Use of bridges and culverts helped significantly reduce *E. coli* loadings in waterways, she concluded.

A regional councillor's perspective

Peter Scott, a newly elected Environment Canterbury (ECan) councillor, said the region has 2,000km of waterways, flowing down 64 rivers, through 22 percent of the country's most fertile soils. He said that as a farmer he's not a fan of compliance. "I'm affected by eight different sets of legislation and regulation."

Farming was up against a lot of public opinion driven by issue such as the "dirty dairying" campaign, animal welfare problems at the former Crafar farms and the debate over the Ruataniwha dam. Christchurch was a "hotbed of Labour" and the rise of left-leaning forces in local body politics such as the People's Choice party all presented challenges for farming at local government level.

Scott admitted water had been overallocated in Canterbury, but said urban people were "jealous" of the farming lifestyle.

Looking ahead, he said farm environment plans were "our best asset".

Peter Scott, ECan: Not a big fan of regulation.

"It's really just your story. If you are a good steward of the land, you can write that down."

He said OVERSEER was just an indicative tool, but it supported our decision as a country to focus on outputs. Input-based models for environmental controls were too easy to get around.

"Farm environment plans will help us regain some trust."

Although DINZ was not happy about ECan's regional planning processes, Scott defended what the council was doing, including the devolution of some authority to catchment zones. In the end, farmers wanted what everyone else wanted when it came to water.

"I'll bet you want to see water flows restored and your kids being able to catch eels in the river the way you did."

[1] **www.stuff.co.nz/business/farming/86183379/scientists-misrepresent-state-of-waikato**

In the zone

Culverden-based farm environment consultant and farmer, **James Hoban**, said the Hurunui/Waiau Zone Committee in North Canterbury was the first of its kind. It was based on consensus between interest groups coming up with an agreed vision. It was then up to ECan to put this into a set of rules.

Once it got to the hearing stage, the groups "retreated to their corners and started throwing stones at each other," Hoban said. "We ended up with about 80 percent of what had been agreed."

The worst outcome was the "10 percent" rule, a form of grandparenting that meant anyone could increase N losses by up to 10 percent. To balance this relaxation, P losses were capped. Dryland farmers (about 80 percent of the area's farmers) didn't attend discussions on this and the net effect was that they were far more restricted under this change than those who were already farming intensively.

Hoban said this outcome showed how important it was for farmers to stay involved in decision making, no matter how onerous the task.

He agreed with Peter Scott's comments that farm environment plans were well worth while, but Hoban also questioned the value of OVERSEER for dryland farmers. Overall, deer farmers were ahead of sheep and beef farmers when it came to environment plans, he said. ■

Environment workshops

Branch chairs came up with some good points in a workshop session focusing on specific environmental topics such as winter feed, deer behaviour, hill country erosion and the politics of environment management. These included:

- ensuring deer farmers are properly represented on regulatory groups at regional level
- deer farmer representation at hearings or making submissions
- helping regulators better understand deer systems
- backing our claims with defensible science, including proof that mitigations actually work
- having "environmental champions" to showcase the industry's progress and achievements
- better management and understanding of natural behaviours like wallowing
- reducing stress in farmed deer, e.g. by getting mob sizes and social groupings right
- having OVERSEER adapted for deer and better quality modelling for environmental planning
- ensuring everything done at farm level for environmental enhancement is well documented
- using better fence lines and techniques like shelter belts to manage interactions between stock and improve stock flow
- isolating wallows that aren't connected to waterways
- carefully managing winter crops by selecting appropriate paddocks and managing stocking rates and size of breaks
- grazing crops in situ or lift and carry depending on conditions
- with crops, considering factors such as location of waterways, local climate, crop type, likely nutrient losses, cultivation versus direct drilling, and use of grazing buffer zones and sediment catchment areas.

Science session

by Phil Stewart, *Deer Industry News* Editor

There is still plenty of work to be done by researchers to support the venison and velvet industries, if a "wish list" compiled by branch chairs is anything to go by.

DINZ SCIENCE AND Policy Manager, Catharine Sayer, facilitated a workshop session where the chairs came up with suggestions for research priorities. Some of these are already the subject of research programmes, indicating that the work being funded through DEEResearch and VARNZ is at least part way to reflecting farmer needs. The following were highlighted by the chairs.

1. Drenches

A usable, effective anthelmintic treatment that is registered for use in deer and has a workable meat withhold period. A tool to better determine if and when drenching is needed would also help reduce overall usage and help delay the onset of resistance.

2. Palm kernel expeller (PKE)

Farmers were interested in finding out more about the effects of PKE on venison and velvet production and what components of the feed source were the most beneficial. They also wanted a better idea of market attitudes to use of the supplement and whether sustainable and cost effective alternatives were available that provided the same benefits.

3. Tb tests

A testing system that minimised stress on animals and the incidence of false positive or negative results (OSPRI also commits some research funding to this).

4. Nutrition

Investigating the nutrition pathways for optimal venison and velvet production: farmers were interested to know whether separate nutrition systems might be needed for each product.

5. Reproductive success

With losses of up to 6 percent between birth and weaning, more work is needed to reduce these.

6. Velvet components

Farmers were keen to see if an index could be developed for velvet along the same lines as the Unique Manuka Factor index that is successfully used for manuka honey. The workshop noted that customers want assurances that velvet products are genuine and pure.

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Science: continued

7. Other priorities

These included work on foot abscesses, environmental mitigation techniques, adaptation of OVERSEER for deer farms and more research on ticks.

A less stressful system for TB testing in on farmers' wish list.

Science communication

The challenges involved in getting science outputs successfully taken up at farm level are a perennial discussion point, with no easy answers.

Communication is a two-way street, however, and farmer input on current and future research priorities – as successfully demonstrated in the workshop above – is essential. Sayer pointed out that the current DEEResearch science programme is detailed in the Five-year Science Strategy booklet and the DEEResearch and VARNZ projects are also listed on the DINZ website (see http://deernz.org/dinz-activity/science-environment-policy/research). Updates are also posted out through *Stagline-Online* (to DFA members) and through the DINZ e-newsletter.

Copies of research reports are available on the DEEResearch website, but it's widely acknowledged that more needs to be done for effective science communication than churning out technical reports.

Sayer explained that DINZ's research partner in DEEResearch, AgResearch, collates farmer feedback on research priorities and then, based on its scientists' own perceptions of science opportunities, works up a research programme proposal to put in front of NZDFA and the Passion2Profit groups. There is also a DINZ appointee on the DEEResearch board nominated by the NZDFA.

While NZDFA branches canvass their members for feedback on research priorities, this is not always forthcoming and it was suggested other mechanisms might be needed to find out what deer farmers want. Advance Parties were seen as a useful channel for this sort of input, but they should not replace the function of the NZDFA in this respect, the attendees felt.

DINZ Board member Ian Walker joined the DEEResearch Board in 2015 and told the meeting that, from his perspective, the system for communicating with farmers through DFA branches and Advance Parties was working well. "The challenge is getting results out to farmers in a usable form."

Velvet Antler Research New Zealand (VARNZ)

VARNZ is a 50:50 joint venture between AgResearch and DEEResearch. For its 2017 programme, the velvet isotopic signature test pilot has the green light, while project scoping is underway regarding the wound healing product RepairX, healthy ageing research and post-velvetting wound healing.

Following difficulties in recruiting suitable subjects, the human clinical trial for RepairX at Middlemore has now been abandoned. While alternative trial designs had been investigated, VARNZ would not be "throwing good money after bad". Hopes that RepairX could be developed into a pharmaceutical-type wound-healing medicine were now fading, especially given the risk-averse environment for commercial development of human therapeutic products. There is, however, still a promising opportunity in the non-pharmaceutical "over-the-counter" market.

VARNZ was looking to see if a commercial partner could be found who would pick up the product and take it through the marketing process, and what additional data they might need before committing to this. This would likely be down the natural remedies route rather than as a registered medicine, with some form of IP licensing involved. DINZ CEO Dan Coup told the meeting that the manuka honey industry had done very well in the natural remedies sector, so there was potential for velvet-based wound healing products there as well.

Update on drench bolus progress

Following his initial presentation to branch chairs in 2015 on the possibility of an effective deer drench delivered via bolus, AgResearch scientist Dave Leathwick updated branch chairs on progress.

He said work is following two objectives:

- developing a cheap and easy test for drench resistance in deer parasites
- developing an effective drench with a workable withholding period.

Dave Leathwick updates branch chairs on development of a drench bolus.

Leathwick said it was difficult to test for resistance, and the cattle assay did not work well in deer. While many gut worms could survive anthelmintic treatment in deer, it wasn't clear whether this was due to actual resistance or just the wrong dose rate or length of exposure to the chemical.

AgResearch carried out dose titration studies on two Landcorp properties. The focus was on BZ (white) and ML ("mectin") drenches. Levamisole (clear) drenches were not seriously considered given their poor efficacy in deer and issues with toxicity in higher doses.

It found that when using the BZ albendazole alone, a dose rate of four times the registered rate of 10mg/kg bodyweight was needed to lift efficacy against Ostertagia-type gut worms from 94 to 99 percent. But a smaller dose, delivered on five successive days, also gave efficacy above the 95 percent threshold considered an acceptable minimum.

The picture for the ML abamectin was similar. Using it at the sheep and cattle dose rate alone gave a poor efficacy rate of 83 percent, and upping the dose rate did little to help. However, a smaller dose rate administered five times on successive days gave a much better result – 100 percent when delivered at the dose rate for sheep and cattle.

Leathwick concluded from this work that achieving satisfactory efficacy for both BZs and MLs required much higher dose rates for deer than expected. BZ drenches registered for deer given at label rates were far from fully effective – a worrying finding. However, extending worm exposure gave a much better result, especially for the ML abamectin, even at less than the recommended dose rate.

So the principles have been established, but how best to deliver the right drenches at the right rates for the right length of time while avoiding residue issues?

Registering an existing combination sheep drench at an effective dose rate for deer was a possibility but it was fraught with difficulties. These included issues of toxicity where levamisole was in the mix, and also the levels of added minerals such as selenium and copper, which might be too high at the higher dose rate.

Leathwick said a BZ/ML combination drench would be more appropriate for deer, but these weren't suitable to be mixed into either a pour-on or injectable drench. It had to be oral, and preferably in a form that gave extended exposure. Depending on the dose rates, the combination administered over an extended period should give a kill of up to 99.99 percent, Leathwick said. It was also possibly effective against liver fluke – although this parasite is not a big issue for deer in many parts of the country.

A "mini-bolus" was still his preferred medium for delivering the right chemicals over the right period.

Reaction to the idea from deer farmers in the room was mixed. Some were fine with administering a bolus while others preferred to stick with a combination of oral (BZ) and injectable (ML) treatments if a traditional oral combination forum could not be developed.

Leathwick agreed that administration of a bolus could be an issue, although he had faith that engineers could design a gun that would work well for deer. While the trial work was showing promise in terms of what type of products worked best, he said it was up to deer farmers to say what system of administering them would work best for them.

DINZ CEO, Dan Coup noted that, in the meantime, work would continue towards bolus development and demonstration of its efficacy compared with traditional oral forms of administration and also exploration of whether a commercial drench manufacturer would consider formulation of a new deer-appropriate combination oral.

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JML at a turning point

by Phil Stewart, *Deer Industry News* Editor

At current industry production levels and the levy of 70 cents per animal, Johne's Management Limited (JML) funding will run out in about 18 months, so decisions are needed about its future.

OUTGOING JML CHAIR, Geoff Neilson, and JML Manager Solis Norton, spoke to branch chairs about the job the organisation has done, and its prospects.

Norton explained that Johne's disease (JD) had followed a classic disease epidemic pattern, and that JML had been created in response to increasingly serious disease impacts. While disease incidence had declined from its peak, more than 300 farm reports detailing on-farm Johne's disease trends would be sent out this year. Recipient farms produced 42 percent of all venison last season and, through their on-farm disease control efforts, the vast majority showed a declining rate of JD-suspect lesions in their processed deer, Norton said.

If the national herd size grew again, there could also be a small uptick in JD incidence due to the retention and trade of second tier stock, he added.

He also noted that the disease remained an international food production concern, so while progress made within the deer industry was encouraging, continued and visible efforts to build on this success were essential.

As well as providing a valuable means of helping farmers manage JD on their properties, JML had aggregated an invaluable database with more than 4 million individual records for processed deer, over 99% of industry production since 2006. This resource had the potential to help farmers lift deer health and productivity by letting them track carcass weights, kill dates, and kill profile, benchmarked against others in the industry. Carcasses of animals affected by JD were up to 25 percent lighter than non-JD animals, but there were other reasons why target weights were not being met and the information provided through JML could help pinpoint issues.

While its remit to help with the management of JD would continue for the foreseeable future, JML is proposing an expanded role under the working name of DeerPRO, with a strategy of providing farmers with valuable productivity-related information. This would be for the same cost as JML.

One branch chair commented that much of the information DeerPRO could provide was already available on company kill sheets. Norton responded by saying that kill sheet information needed considerable further work to provide seasonal trend information for a farm. DeerPRO could provide this in an easily accessible form, with the previous four seasons for comparison. "Just ask for your report by email or phone and we'll provide it."

Norton said the information DeerPRO could provide "hands free" could be used in partnership with your vet or farm adviser to highlight productivity problems or opportunities. Comparing your own production year on year over five years, as well as With trends for the region and country, "you'll easily see production responses to changes in your deer system ".

When JML was established, processors voluntarily agreed to contribute at $1 per animal to fund it. JML dropped this rate to 80 and then 70 cents while operating at minimum cost but this has become unsustainable at current reduced kill rates. Norton said an adjustment of the levy back to 90 cents would secure JML/DeerPRO into the foreseeable future. There would be no capital injection required to start running the expanded service, which would be available to farmers for no additional charge.

He agreed that the definition of "young" animals under the current reporting system was deer under three years of age and that the effect of this on growth rate calculations for 'young' deer less than 18 months of age needed to be determined. "We need to assess how useful this metric is in its current form, but this is not an end point – it's a starting point for discussion on the productivity information that farmers need."

Consultation with industry stakeholders regarding the new DeerPRO strategy would be complete by December with a final decision made at JML's annual general meeting in February.

- For a copy of the DeerPRO proposal: www.johnes.org.nz/news/deerpro-proposal/

A deer-appropriate combination oral drench would be of great assistance to the industry.

CARLA update

Geoff Asher, AgResearch, updated branch chairs on work to measure the physiological effects of high or low levels of CARLA, an antigen in deer that indicates resistance to internal parasites. Heritability for high levels of CARLA is moderate at 0.35–0.4 (1.0 is the highest level).

Asher said there is a lot of variation in CARLA levels within and between breeds, with some wapiti also showing high levels. But while it's possible to select on this trait, it's not yet clear if it translates to reduced parasitism and better growth in deer.

Work on CARLA is being done alongside work on identifying biomarkers for Johne's disease resistance and susceptibility by Frank Griffin at the University of Otago. Asher said the biomarker work was also looking at immune function generally, and its role in resistance and resilience.

A mob of 400 hinds were AI'd with semen from eight stags, two each with high and low CARLA levels, two Johne's resistant and two Johne's susceptible. Progeny, to be born in late November, will be variously challenged with JD and parasites during 2017 and the responses measured.

"If we find CARLA does confer protection from parasites, we could have a tool to measure the phenotype for resistance." He said it was possible the models for resistance to JD and internal parasites could be similar, meaning it might be possible to farm deer with fewer health interventions.

"It won't happen overnight and it probably won't be possible to stop drenching altogether, but hopefully it will eventually reduce our reliance on drenches to manage parasitism in farmed deer," Asher said.

Genomics tools

Suzanne Rowe of AgResearch explained that genetic gains could be accelerated thanks to the great accuracy of the new genotyping-by-sequencing (GBS) technology (see *Deer Industry News* June/July 2015 for a fuller description of GBS).

She said GBS was stable, accurate and the same cost as the earlier – and much more limited – microsatellite technology. The total cost per sample and analysis is $20 for sample runs of 300 or more.

Rowe said that because part of the genome is very breed specific, it is possible through GBS to find out if two animals are too closely related, and thus avoid the danger of inbreeding (important for stud breeders). The analysis also allowed more accurate breeding values and measures of breed proportions within an animal. In the medium term it would help identify both desirable and lethal variants.

From a marketing perspective, the greater accuracy of GBS gives greater assurance for traceability.

Jamie Ward (AgResearch) explained that in future deer farmers would be able to use GBS to select their replacements early. "If you know at weaning what to retain, that's going to help accelerate genetic gain."

He said that having a clear fix on the genetic heritage of animals meant it might be possible to differentially manage various groups, depending on aspects of their genotype that hadn't expressed themselves yet.

Genotyping meant it was possible to select on "invisible" traits such as meat quality.

In commercial herds, genotyping would make it easier to sort out which sires were really performing well – especially important where multi-sire mating was used and identifying parentage wasn't so straightforward.

It could also help when identifying "outliers" with exceptional traits that could be retained and introduced into the breeding herd. ■

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26 Halwyn Drive, Hornby,
Christchurch 8042