

A satellite view of New Zealand, showing the North and South Islands, surrounded by the Pacific Ocean. The land is green, and the water is blue. The sky is filled with white clouds.

Deer Industry News

More funding
proposed for
environmental
stewardship

P2P Regional Workshops

BUSY SCHEDULE OF WORKSHOPS IN WAIKATO NELSON, CANTERBURY AND OTAGO

Advance Parties

NATIONAL WORKSHOP TAKES NEW APPROACH TO PRODUCTIVITY AND PROBLEM SOLVING

Velvet Markets

EAST MEETS WEST AT EXCITING "NEW ORIGIN" CONCEPT STORE IN SEOUL

Deer Industry News

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Cover: Deer Industry New Zealand is proposing to bump up expenditure on environmental stewardship. Photo: Norman Kuring/NASA Earth Observatory

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Big bump for environment

IT'S A PLEASURE to write this piece as the recently re-elected Chair of Deer Industry New Zealand. Changes to the DINZ Board usually take effect each year from 1 July, but this year William Oliver was re-elected unopposed, I have just been re-appointed Chair and Glenn Tyrrell re-elected Deputy Chair – so it's "steady as she goes".

At our July meeting, the big item of business was a draft DINZ budget. We have agreed to go out to consultation with a draft that proposes a big bump in spending on environmental stewardship. Increasing our work on environmental matters was the main "tweak" that the Board wanted when we reviewed our Strategy earlier this year.

We propose to add about \$260K in additional environment spending next year. This is in response to the changing regulatory situation and calls from deer farmers for more help in this area. The new spending will be spread across engagement with regulators, research and working with deer farmers to help them get on top of environmental management.

To pay for that we are proposing a one cent lift in the venison levy. We also think that the growing volume of velvet (and levies) should take care of the velvetters' share of the increased environmental spend.

Fortunately the proposed levy increase will be partly offset by a reduction in the amount we need to collect to meet our TbFree programme obligations. Our bill from TbFree will reduce a little in 2018/19 and we plan to reduce the amount we collect for that purpose. We think the TbFree levy rates can be reduced by half a cent per kg of venison and 5 cents per kg of velvet. That is alongside the change in policy meaning that farmers do not have to pay for their own TB testing.

The other proposed change is to create an official per-kg levy to fund DeerPRO (formerly Johnes Management Ltd). Processors currently make a 90 cent deduction for each carcass for DeerPRO. We plan to get rid of that deduction and replace it with a DINZ levy of 1.5 c/kg. (Based on a 57kg carcass, that would collect about 85 cents per head, so it means a small saving for farmers.)

The net effect will be a 0.42 cent increase in the venison levy and a 5 cent reduction in the velvet levy. The table below summarises the changes:

Venison levy changes		Velvet levy changes	
DINZ	+1.0 c/kg carcass	Reduce TbFree levy	-5.0 cents/kg velvet
New DeerPRO levy	+1.5 c/kg carcass		
Delete DeerPRO per-head deduction	-1.58 c/kg carcass*		
Reduce TbFree levy	-0.5 c/kg carcass		
Overall	+0.42 c/kg carcass	Overall	-5.0 cents/kg velvet

*The DeerPRO deduction is 90c/head, which equates to around 1.58c/kg at an average carcass weight of 57kg.

Other than that bump for environmental stewardship, the Board is reasonably happy with the programmes DINZ has underway. There will be a few tweaks to the projects within the P2P, but overall it's going well. We hope to maintain the momentum that P2P has generated and avoid complacency – which is a risk during these times of healthy returns.

We want to keep up the pressure on deer farming profitability improvement, but we also look forward to accelerating the work on environmental management – and you can find several articles in this issue of *Deer Industry News* with a strong environmental theme (see pages 3, 29, 30 and 31). I hope all deer farmers will take the opportunity to get involved with new projects once they're underway. ■

– Ian Walker, Chair, Deer Industry New Zealand



Ian Walker.

Castledown Farms: In it for the long haul

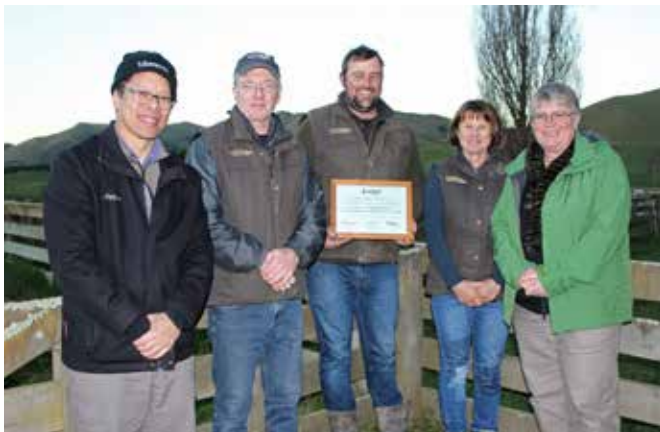
by Phil Stewart, *Deer Industry News* Editor

While there is always uncertainty about the environmental stewardship challenges ahead, that's no reason to sit back and wait to be forced into action. Members of the Tasman/Marlborough Advance Party certainly haven't been sitting on their hands, and some of their work was on show at a P2P Regional Workshop on Castledown Farms, Wakefield on 27 June.



Castledown is nestled in a valley near Wakefield providing a mix of land types put to good use for deer breeding on the slopes with more intensive finishing on the fertile flatter land. Streams have been fenced off and include riparian plantings. A series of sediment traps have been developed to capture runoff before streams exit the property to enter the main stream that runs down the valley.

THE FARM IS owned by Claire Parkes and Simon Vincent. Along with manager for the past five years, Tom Curnow, Claire and Simon won the First Light Award in the 2017 Deer Farmers' Environmental Awards, for total commitment to farming sustainably with a strong customer focus. NZDFA and Silver Fern Farms sponsored the day.



Simon Vincent (second from left), Manager Tom Curnow (centre) and Claire Parkes (second from right) were presented their 2017 Firstlight Deer Farmers' Environment Award for total commitment to farming sustainably with a strong customer focus. They are flanked by award judges Lindsay Fung (left) and Janet Gregory (right).

Claire Parkes was quick to point out to visitors that their work was far from complete and they had entered the awards "as a learning experience", but once they were committed to the exercise they acknowledged that they have taken farm environmental issues far more seriously. "That was a turning point for us. We'd been doing some fencing of waterways to stop deer



This sediment trap captures runoff and allows sediment to drop out before it enters the creek leaving the property. Wetland plants increase uptake of nutrients in water as well as stabilising the area.

continued on page 4

Castledown: continued

messing up the creeks, and planting trees for shade and shelter, but [entering the awards] gave us a lot more focus.”

The environmental work at Castledown is well planned and is prioritised according to risk, budget, external pressures, and farm work programmes. Tom has been very proactive in making these projects happen, Claire said.

She urged other deer farmers to take environmental stewardship seriously and look to the product premiums that were available through meeting higher standards.

Castledown is a large (867 hectare) steep and rolling property with some flats on a mix of Mount Heslington free draining soils and Moutere clays, which have an iron pan at about 500-600mm. The property is mainly sheep and beef, with 204 hectares deer fenced. The deer operation includes velvetting (300 stags), breeding (280 hinds) and finishing (800 weaners).

Tom Curnow told the 30 visitors that breaking the iron pan on the clay soils helped with drainage. Average annual rainfall in the district is 1,000-1,200mm, but falls can be heavy and, as with all deer farms, sediment loss is the main environmental risk.

The clay soils especially are dotted with springs and Tom said the deer are very adept at discovering them and turning them into wallows. He urged visitors to keep their eyes peeled during the farm tour and point out any critical source areas like these that might need attention.

Tom said the best order of work begins with drainage and earthworks to manage water flows and create sediment ponds, followed by fencing and riparian planting. He felt that gullies could become “sodden” if they were planted before the drainage and flows were sorted out on the clay soils.



Cleaning and redefining flow areas while maintaining a meander improves drainage of the surrounding land, increasing productivity and reducing pugging. These zones are considered Critical Source Areas for sediment loss. Suggestions from the group included installing novaflo in these areas to reduce sediment loss while maintaining drainage of the land, which will improve water quality.

Simon Vincent, who chairs the P2P Environmental Stewardship Theme Group, commented that the deer industry’s social licence to operate shouldn’t be taken for granted. “This is real. If we have a rare event such as a mistake causing a muddy stream, that image can get around the world very quickly.” He said they acknowledged the realities of their biophysical, social, economic and cultural environment when planning how they would farm.

DINZ Environmental Stewardship Manager Lindsay Fung told visitors there were contrasts between regional councils’ approaches to environmental management. He said the Tasman

District Council had not yet addressed the national policy statement for freshwater management. It was so far applying a light regulatory touch compared with other regions such as Canterbury, Waikato, Southland and Hawke’s Bay, where councils require farmers to document what they are doing. He said Marlborough’s proposed freshwater plan had some tough proposals around stock exclusion, which could affect deer farmers.

Lindsay said Claire and Simon were well prepared for when the



Deer needing to keep cool have created a wallow around this trough. This could be filled in with rock to improve access to the trough while encouraging them to create a wallow in another part of the paddock where any runoff does not enter a stream.

Tasman District Council started applying more scrutiny. “Deer farms are generally well set up [for environmental regulations] because we already know what the main risks are – wallowing, fence pacing and winter grazing for example. No deer farm is perfect but most are addressing the issues and would stand up to regional council scrutiny okay. That said, there is no room for complacency.”

He said it was important to engage early with regional councils, before issues blew up. He said the Land Management Officers are “the good guys”.

“It’s better to show you’re willing to work with them to reduce environmental impacts. There’s always a risk that could backfire if they require you to do more than you’d like, but in principle it’s best to engage [with councils] early.”

NZ Landcare Trust’s Janet Gregory, who helped judge the environment awards, advised people to be well prepared before inviting council staff onto the property. “Make sure you have a farm plan ready and that you can show how to mitigate the effects of deer behaviours. Land Management Advisers are there to help landowners but it would be best to avoid bad [wet] conditions.”

Farm tour

A three-stop farm tour around Castledown highlighted established, new and planned environmental mitigation work.

Planting has always been a strong feature, both for trees providing shelter and shade, and plantings with species like ribbonwoods and swamp sedges around wet areas to help filter sediments and capture nutrients. An important first step is to tap into local knowledge about the best species to use, and Claire and Simon are fortunate to have nurseryman Robert Appleton as their near neighbour and supplier of countless plants, shrubs and trees.

Robert has created a magnificent arboretum featuring more

than 1000 species at his nearby 150-hectare property at Pig Valley. His experience with both native and exotic plantings has provided great insights into what grows well in the local Mount Heslington soils.



Nurseryman Robert Appleton (in red shirt, left) provided valuable local knowledge about choice of species for planting.

While acknowledging the importance of native species, he enjoys the contrast and seasonality provided by exotics and that preference has been picked up at Castledown, where exotics such as oaks are already reaching a good size and softening some of

the stark hill faces. Robert said deciduous trees can provide good shade for stock and to help cool waterways in summer.

He warned that too many green acorns from oaks can be toxic to cattle, which in turn can be hard on growing trees. While deer don't seem to suffer as much from eating acorns, he advised caution and good grazing management to prevent stock gorging on them.

Conifers on clay soils also have their place, but trimmings of some species can cause abortions in cattle, so care is needed. As browsing animals with a wider preference range, deer may not be so susceptible.

Sediment ponds are being created at Castledown Farms, and Janet Gregory noted that a series of smaller connected ponds can be more effective and easier to manage than one large pond.

On the second stop we were shown some more recent developments with a block that had been deer fenced and subdivided in the past five years. Tom explained the iron pan had been ripped, ditches cleared, culverts installed for crossings in the gullies and sediment ponds set up. (Janet Gregory noted that waterways should be in a gravelly zone in the soil profile, which provides the best environment for invertebrates and improves water quality.)

They have planted poplars and specimen trees on the slopes for shade and stability, but still had a lot more planned plantings. Tom commented that it is best to carry out regrassing before trees are planted, to avoid accidentally killing new trees with sprays. Robert Appleton said ryegrasses actually produce an exudate to help them compete with trees, so to give poplars a better start his nursery provides rooted wands that establish more successfully than poles.

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Castledown: continued



Cleaning and redefining the inflow to this sediment trap has improved drainage of the surrounding land. Maintaining the natural meander slows down the flow rate to the sediment trap, which can be cleaned out periodically.

He added that Italian alders or birches are also great fast-establishing pioneer species to use in the wake of damage such as slips.

Several other tree species were discussed, including willows. While the crack willow (*Salix fragilis*) is nationally classed as a weed, the giant willow aphid that's been in New Zealand for the past five years does have an impact on it. Robert Appleton said hybrid clones of the willow *Salix matsudana* [available since the 1980s] were resistant to the aphid and could be used where willows were preferred.

He said some species from the eastern United States were wet-tolerant, had deep-plunging root systems and would provide plenty of shade. Kahikatea and red maples would also work well in this environment and also had aesthetic value (see p7 for list).

The green plant protectors used at Castledown in new plantings had many benefits, Claire said. They made new plantings easier to find, provided shelter from the wind and browsing hares, and also shielded new plants when spraying was needed to suppress grass and weeds. Some protectors lasted up to 10 years and could be reused, while others fell apart after two years.



Native plantings along the creek in the foreground create habitat for birdlife and insects while shading the stream. This in turn reduces weed growth in streams and reduces the water temperature, improving the habitat for stream life. Control of weeds such as old man's beard has been critical for the survival of these plantings.

If spraying before planting it was useful to employ marker pegs, which also helped when planning spacings.

One visitor suggested use of dags as a mulch around new plants, while another suggested a scattering of dog poo helped keep hares at bay. Neither technique seems to have been widely tested.

A creek that had been fenced and planted featured at the final stop on the tour. Simon said they'd had to deal with a lot of hawthorn, barberry and old man's beard along the creek before riparian planting. Ribbonwoods and pittosporums were doing well, but lancewoods hadn't thrived in competition with grass and they'd had mixed success with toitoi.

Maruia farmer shares plan

Advance Party member Tony Peacock, who farms along the Maruia River, is completing a Land and Environment Plan (LEP) and shared his experience at the workshop.

The 350 effective hectare former dairy farm has 310 hectares deer fenced, 88 hectares in reserve and 250 hectares cultivable. A hill block is used for the 850 red breeding hinds and two blocks of

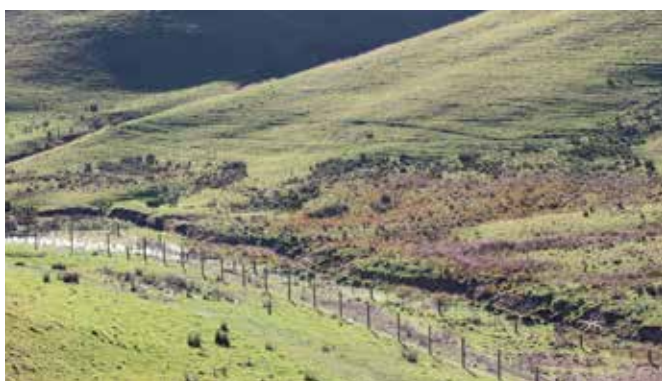


Tony Peacock (inset) said his property in the Maruia Valley includes many wetlands highlighted for protection.

Top recommended plants for Castledown Farms local environment*

Species	Attributes
1. Swamp flax, harakeke (<i>Phormium tenax</i>) Mountain flax, wharariki (<i>Phormium cookianum</i>)	Swamp loving Hardy
2. Black matipo, kohuhu (<i>Pittosporum tenifolium</i>) Karo (<i>P. crassifolium</i>) Lemonwood, tarata (<i>P. eugenoides</i>)	Hardy, 4–6m Hardy, 3–6m Fast growing, 5–12m
3. Swamp sedge, pūrei (<i>Carex secta</i>)	Swamp loving, uptakes nitrogen
4. Manuka (<i>Leptospermum scoparium</i>)	Hardy
5. Akeake (<i>Dodonaea viscosa</i>)	Hardy, 3–7m
6. <i>Griselinia</i> sp. (broadleaf)	Grows in wide range of environments
7. Kowhai (<i>Sophora microphylla</i>)	3–7m, attracts birds
8. Tree daisy (<i>Olearia</i> sp.)	Hardy
9. Ribbonwood, manatu (<i>Plagianthus regius</i>)	Fast-growing, hardy, 5–10m
10. Lacebark, houhere (<i>Hoheria populnea</i>)	Long tap root, good for holding creek banks
11. Tree lucerne, tagasaste (<i>Cytisus proliferus</i>)	Attracts kereru
12. Totara (<i>Podocarpus totara</i>)	Stock won't eat it
13. Poplar (<i>Populus</i> sp.)	Slope stabiliser, Tasman District Council provides free
14. Ovens cypress (<i>Cupressocyparis ovens</i>)	Hard clay ridges, evergreen, fast growing
15. Oak (<i>Quercus</i> sp.)	Hardy on clay soils
16. Dawn redwood (<i>Metasequoia glyptostroboides</i>)	Deciduous, fast growing
17. NZ White pine, kahikatea (<i>Dacrycarpus dacrydioides</i>)	Wet tolerant
18. Red maple (<i>Acer rubrum</i>)	Wet tolerant

*These species will grow well in most New Zealand environments, but get local advice first.



These wet boggy areas next to the stream are filtering water runoff and could be fenced off above to maintain the natural filtering and reduce pugging from livestock.

flats are used for finishing and wapiti. (There are 20 wapiti cows for breeding terminal sires, 140 velvet and sire stags, 103 bulls, 27 beef calves and 80 Wiltshire ewes.)

Tony grows some summer and winter crops and makes baleage, feeding palm kernel in winter.

He is motivated to preserve the natural environment and is also responding to council requirements to fence waterways and protect the 45 hectares of “significant” wetland that dot the farm. He’s also keen to keep farming profitably.

Tony has been working with the Tasman District Council, NZ Landcare Trust and Ravensdown to start building his LEP. That’s included doing a nutrient budget and whole-farm soil tests, finding critical source areas (e.g. stock crossing points, eroding stream banks), identifying the council’s priorities and available support (e.g. 25 percent of riparian fencing costs) and creating a detailed LEP map. The council had told him they didn’t want poplars or pines used in the valley, as they weren’t present and could become weed species.

He said the main risk factors included sediment and phosphate as well as *E. coli* getting into waterways. Using the *Deer Industry Environmental Management Code of Practice* provided a structure that cut down on the paperwork needed. Tony said doing the plan has been a great learning process. It confirmed plenty of good practices they are already doing, removed a few that they can’t do, and highlighted some other good practices they’d like to adopt.

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Castledown: continued

Documenting the good and not-so-good areas with photos, including before-and-after shots, opened Tony's eyes to the work he needed to do – as well as the good things that are already happening. For example some of the wetland areas on the property are already fenced and areas of bush are protected, while water from the yards is channelled into a soak hole.

Tony is fully engaged with wider environmental initiatives too, being the latest to join the AgResearch-run long-term monitoring of the impact of deer on waterways in high country environments.

As part of his environmental work he's been investigating the emissions trading scheme (ETS) with Ekos, a carbon emissions trading company based in Golden Bay.

While pines were the best candidates for the ETS, Tony didn't want to get into the growing and harvesting cycle. He preferred natives, but because they grow slowly, they won't provide a good return. A possible compromise could be a mix of natives like manuka and exotic hardwoods such as eucalypts at 60 stems/hectare (although some eucalypts are frost prone).

The carbon revenue would cover costs, and if the exotics were harvested, the remaining natives would help offset the cost in carbon credits. The manuka could also provide a revenue stream from honey. Over 50 years, the return on investment from this approach could be 11.9 percent, Tony said.

"I want to be carbon neutral but I need to know how many trees I need to plant each year. I want to be able to supply my deer [to my processor] and tell them these are from a carbon neutral farm. If [the ETS] is regulated sensibly, this is doable."

Using your carbon credits

Dr Annette Litherland, Nelson/Marlborough Regional Coordinator for the NZ Landcare Trust noted that trees planted along a creek qualify for the ETS if there is at least 15m of trees each side of the stream (at least 30m total width), they reach at least 5m and the canopies meet, with at least 30 percent foliage cover.

She said Overseer® can be used to calculate greenhouse gas emissions (it cannot yet be used to calculate offsets). "You don't have to sell your carbon credits to the ETS," she added. "You can sell them to a voluntary carbon market." The Tasman District Council had funded a feasibility study for Tony Peacock's farm to reach carbon neutrality.

She said farmers needed to be able to look after wetlands and riparian areas without it adding to their costs, so that the internal rates of return come back as zero.

A Sustainable Farming Fund application was being developed to fund some on-farm pilot trials for biological proof of concept about the best types of trees, planting combinations and so on. She said some local businesses that wanted to become carbon neutral could be interested in buying carbon credits off farmers like Tony. If they did this by funding the up-front development costs, that could provide the impetus and capital to get started. "Once the exotic trees have been taken, you would be left with the natives. You've funded your way into it." She is interested in finding more farmers like Tony who are interested in this way of funding good environmental practice along riparian strips, around wetlands and on erodible land.

Robert Appleton urged people to consider long-lived species like oaks and redwoods that could live 150 years or more. "Forget about harvesting – just [capture] the carbon forever." He added

that nurseries such as his can rise to the occasion if demand for trees increases, but advised people to order 1–2 years ahead when planning plantings.

Canterbury farmer Graham Sutton urged farmers to take the lead and innovate in terms of tree planting and being carbon neutral. "Councils will follow farmers' good practice where there has been a vacuum."

Simon Vincent said farmers should accept there were good reasons behind the design of the ETS, and learn to work creatively within restrictions such as the 1-hectare minimum. "You don't want a bureaucrat involved every time you cut down one tree," he said. ■

Workshopping ideas

Facilitator, Urthe Engel rounded out the day with a quick workshop for ideas to deal with a paddock on the flats at Castledown currently being used for cropping. The paddock has an open drain running through the middle towards a creek, making it a potential critical source area and also awkward to manage. Suggestions included:

- changing the layout of the paddock and ditch
- retiring the paddock
- creating a good wetland and sediment trap between the ditch and permanent creek
- using a catch crop such as oats following the main crop, to capture nitrogen
- lifting fodder beet and carrying to a feed pad (although runoff from a feed pad would also need to be managed)
- using filter cloth (available through major building suppliers) backed by old hay bales to trap sediment in ditches before it reaches permanent waterways
- use of subsoil drainage rather than an open drain where the flow is not permanent – by using filter cloth and chip in the drain, much sediment is removed before the water reaches permanent waterways. (While ditches are cheaper, they sacrifice grazing space, require culverts for crossings and are an impediment.)

Tony Peacock commented that making the right decision takes time and observation. "I'd want to farm here a year before deciding what to do with that paddock." ■



Facilitator Urthe Engel workshopping suggestions for the cropping paddock.

Intensive learning at Advance Party National Workshop

by Phil Stewart, *Deer Industry News* Editor

The intensity of learning at the 2018 Advance Party National Workshop stepped up a couple of gears on previous years. The event, on 11-12 June, made a welcome return to Methven after a two-year break. The 41 Advance Party members were well supported by some of the best brains in the deer industry as they worked through the two-day programme.

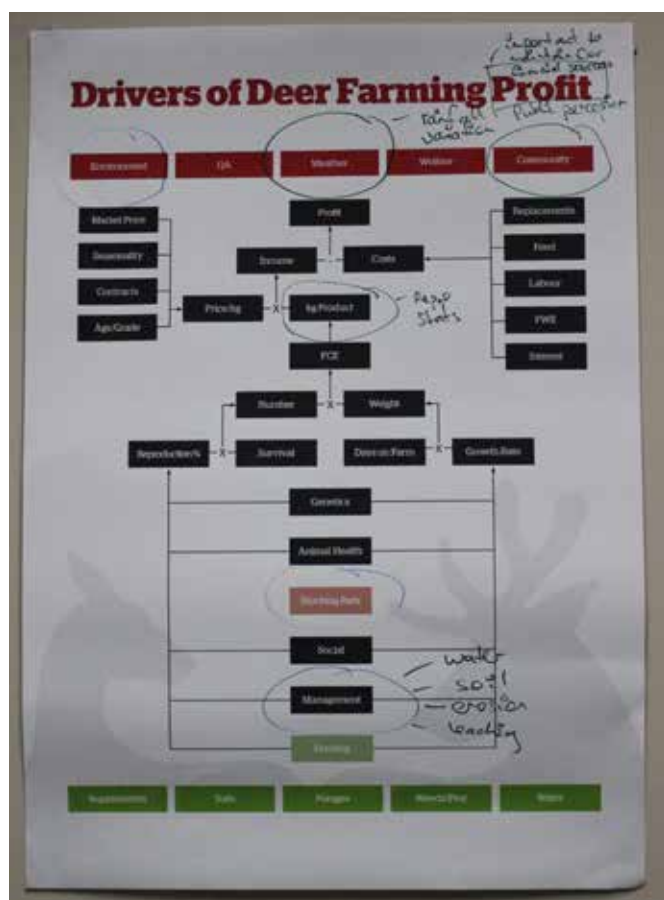
THE WORKSHOP WAS set up by Advance Party Manager Pania Flint, whose programme emphasised seeking information, problem solving and collaborating in small groups.

Attendees were supported by nine Advance Party facilitators and nine “knowledgeable assistants” who were on hand to provide information within their field of expertise. They were kept busy throughout the two days and while it was handy to be able to tap into this knowledge in person, a strong theme emerged: most of this expertise is also readily available to all deer farmers through the Deer Hub and the growing catalogue of Deer Fact sheets.

environmental constraints. The workshops were based around detailed real-world case study farms with a particular focus – extensive breeding and weaner sales for example. Each farm had specific goals and had identified certain constraints.

Facilitators and their groups started by looking at the big-picture areas that might be important for their case study farms. They then split into smaller groups who drilled down into particular areas where changes could be made – feed quality or weaning practices for example.

Pania Flint says the aim was not to solve all the problems on the case study farms, but rather to get the attendees working through a process and accessing resources that they could apply on their own properties. And this principle worked well. At the end of the workshop, each member stood up and spelled out one change that they would make on their farms. There was no shortage of ideas – more on these later.



Main issues were identified first.

Participants had selected a couple of areas of interest and did a three-hour workshop on each of them. These areas spanned variations on breeding, finishing, velvet production and



Facilitator Matthew Carroll (left) workshoping ideas with a group.

Workshop sessions were interspersed with presentations from individual Advance Parties on work that was being done on their patch. It was a diverse and inspiring range of stories, showing that these groups are still a powerful engine room for productivity improvement and the sharing of good ideas. These presentations are summarised later in this article.

A melting pot of good ideas

It would be impossible to spell out everything that was discussed within the groups. Much of it was common sense and drew on known best practice. The important part was the process, but that said, some useful nuggets did emerge.

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The ideas expressed here are shared to illustrate the workshop discussion. What works best for you will depend on your own farm circumstances and objectives. Ask your vet, farm adviser or other rural professional for advice pertinent to your situation.

Animal Health

- The **Deer Health Review** available through DINZ is an “awesome resource”, said Hawke’s Bay’s Geoff Smith. He urged others to go through the process, noting that it’s best to get as much information together as possible before sitting down with your deer vet (visit deernz.org/deer-health-review).
- **Fusobacteriosis/foot problems** affect many. Investigate cases of lameness and try to identify the cause. Risk factors for young stock include grain feeding, rough concrete surfaces, long-distance transport, weather stress, yard handling (e.g. sudden changes of direction on hard surfaces) and geography (some regions suffer more than others). Tips included using old carpet over concrete flooring, installing rubber matting and minimising time in yards or saleyards. Ask your vet for advice on whether you should treat the whole mob where there is infection present.
- **Parasites:** Talk to your vet about an effective parasite management plan. Consider using a triple-active drench regime and quarantine drench young stock coming onto the farm; check drench efficacy in autumn using a faecal egg count reduction test; use smaller mob sizes to reduce the challenge; maintain refugia on pasture (a dominant population of drench-susceptible parasites); use cross grazing to clean up pasture for deer; take care moving stock following a drench for lungworm; avoid drenching onto clean pasture or crop; the best response to drench can be in autumn – less so in late winter/spring.
- **Ticks:** The Python tick tags are expensive (over \$4) but very effective. Ian Bristow said he uses two on each animal from October through to February and this works well. Pasture spraying for ticks works, but “kills everything”.
- **Probiotics** at weaning for rumen development: There are mixed views on whether these work or are necessary.
- **Minerals:** Watch for clinical signs of copper deficiency and consider Optigrow or liver biopsy if you suspect levels are too low. There are several options for administering copper (bolus, injection, fertiliser). Other significant minerals include selenium, B12, iodine and cobalt in some areas; be aware of possible interactions between some minerals suppressing uptake by deer.

Nutrition

Quality was a recurring theme or, as one person succinctly put it: “Crap in, crap out.” Other useful points included:

- **Planning:** Think well ahead about critical times for feed such as the end of winter and late lactation and post-rut recovery for adult stags. Have contingencies in place for weather events when feed demand might spike. Plan for deficits and surplus periods. Specialist forages such as chicory or clovers can help plug seasonal gaps.
- **Feed budgeting:** Plenty of feed budgeting templates are available. Consider metabolisable energy (ME) of various feed

options as well as straight kg of dry matter. Also consider crude protein content, especially for growing stock or velvetters approaching button drop – they need up to 24 percent crude protein in their diet at that point. Fodder beet has good protein content in the leaf, but the bulb is mainly carbohydrate once the leaf is gone.

- **Measuring and testing:** The “eyeometer”, red bands, sward sticks and C-Dax meters all have their place measuring covers. Quality testing is also well worthwhile – consider herbage and soil testing as well as supplements to make sure the energy/protein balance is right. Ginny Dodunski organised silage testing for Waipa Advance Party members (see report on page 15) and they found quite a variation in quality. A basic silage test is about \$50. Make sure the ME of the feed you’re using is up to deer seasonal requirements (e.g. spring growth versus winter maintenance). Browntop provides a good high ME feed in spring.
- **Costs:** Balance feed quality and cost, and compare the economics of home-grown versus bought-in fodder. (Farm consultant Graham Butcher is preparing a model that compares the true costs of growing different supplements. He’s looking for more farmers to “test drive” it before it’s released.) Lucerne baleage is a great source of protein but can be expensive (24c/kgDM home grown but up to 74c/kgDM bought in). Also consider labour costs and utilisation efficiency when comparing different feed options. Advantage Feeders or well-designed self-feed silage pits can help reduce waste and ensure all stock get a fair go.



Facilitator Urthe Engel (right) works with a group brainstorming ideas about nutrition.

- **Grapemarc:** If you farm in a winegrowing area you might be able to access grapemarc, the unwanted skins and seeds from pressed grapes. Deer love it but the ME isn’t very high – the better option is grapemarc that hasn’t been washed to extract the last of the sugars. Runoff into waterways from grapemarc should be avoided because it is acidic. It can be ensiled or, if fed straight, put on a layer of hay.
- **Prioritise:** Animals such as R2 hinds need good treatment to get them to a successful first mating; likewise, breeding and velvetting stags need good nutrition in the month after the rut (consider condition scoring them at this point). Grain or deer nuts can be used to “quieten” velvetters after they come off winter crop and before button drop. Justin Stevens said a

mix of grain and palm kernel for his stags at this point was like “flicking a switch” as they started to put on condition.

- **Animal management:** Keep overall stocking rates at the right level and also the balance between stock classes for good pasture management. Within the deer herd, watch mob structure and the mix of age classes.
- **Transitions:** Get fawns started on grain well ahead of weaning but bear in mind the acidosis and resultant fusobacteriosis risk. For transition from crop back to grass, allow 5 days. For grass to crop, allow up to 14 days.
- **Tools:** There are great tools available to help you work out the relative costs of different feed options and the quantities of energy and protein needed for optimal growth: deernz.org/deerapp

Genetics

- **Objectives:** Work out your breeding objectives before you start looking for sires. Identify the ideal hind size/type for your property and stabilise the line. Consider the suitability of the breed or strain you are using for your objectives and environment.
- **Genetic gain:** Retaining the female progeny of first fawners and mating them with young high-BV sires will accelerate genetic gain.
- **Breeding values:** Insist that your breeder supplies meaningful breeding values in their catalogue, based on between-herd performance, not performance measured only within their herd. Breeders on Deer Select will have this information. They will also have their own genetic trend graphs of progress for the traits you are interested in. Work with breeders who are focused on improving the same traits that your breeding objectives are based on.
- **Sire selection:** Compare the performance of bought-in sires with your home-grown sires. Favour sires raised in a similar farming environment to your own and give them time to get acclimatised. Establish a long-term relationship with your favoured sire supplier and get to know their breeding system.
- **Culling:** Consistency is good, but genetic variation is also useful for identifying top performers.
- **Temperament:** Poor temperament is a health and safety issue and also affects carcass quality (bruising/injury). Consider culling the female progeny of stags with poor temperament. There are two types of poor temperament: aggressiveness or being easily spooked. Each can cause problems.
- **Breeding management:** Get your R2s up to at least 90 percent of mature weight in time for mating. In mature hinds, body condition score is more important than actual weight. Hinds with a body condition score of less than 2.5 are less likely to cycle or may cycle late. Lifting condition score from 2.5 to 3.5 will bring conception forward by 3–7 days.

Weaning by the first week of March can lift body condition in hinds and bring conception date forward by up to 10 days. Ideal sire ratios are commonly seen as 40–50 hinds per mature sire and 10 hinds per yearling stag, but the best ratios depend on many factors such as breed, socialisation, temperament, etc. Some breeders have success with much higher ratios of hinds to an elite sire, but there's some risk with this, and back up stags may be advisable unless there's a management focus to

condense fawning dates. Get expert advice if unsure.

Be mindful of the hind mob structure for mating and make sure the mob is settled and well socialised. Try to condense mating/conception dates.

- **AI and ET:** Choose good quality hinds as surrogates for embryo transfer, feeding them well in the leadup to ovulation. Artificial insemination can cost about \$500 per fawn on the ground, so favour your highest BV hinds to get maximum advantage from your investment.
- **CARLA®:** Resistance to internal parasites (via CARLA) is the only disease-related trait being recorded for Deer Select at present. Although these are not yet reported on Deer Select tables, some Deer Select breeders report within-herd breeding values for CARLA in sale catalogues. A high value for CARLA does not adversely affect other traits.
- **Balancing terminal and maternal sire mating:** The mate allocation calculator helps you calculate the balance to get the right number of replacement females on the ground each year: apps.deernz.org.nz/Mateallocation
- **Consult the expert:** Deer Select manager Sharon McIntyre is happy to help both breeders and buyers of sires. Visit the website: deernz.org/deerselect

Environment

- **Get the code:** Go to deernz.org/deerhub/farm-environment and click on **Environmental Management Code of Practice** to download.
- **Farm Environment Plan:** Some regional councils will audit your plans. You need to show evidence of action, not just intent.

For all your

VENISON KILL REQUIREMENTS

talk to Bede Crean, or your local

Alliance livestock rep



Bede Crean : 027 229 9341
Or visit www.alliance.co.nz and select 'Contact Us' for more information.



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AP Workshop: continued

If you get an “A” pass, visits will be only 3 yearly, but if you rate poorly you’ll be revisited every 3–6 months. Copy and paste a template from the newly released *Environmental Management Code of Practice* (link above).

- **Social licence to farm:** Watch appearance of roadside paddocks, especially when break feeding crops in a wet winter. Feed towards the road and leave a visual buffer.
- **Water flow:** Learn water flow patterns on your farm. Manage water courses to meander and slow flow velocity. Water in a drain is easier to control than surface flow, but maintaining cover in the flow path will help reduce losses. Use sediment traps in key areas – several small traps are better than one large one.
- **Wallowing:** Providing good shade will give deer a way to stay cool other than wallowing. Encourage wallows in less sensitive areas and away from water courses. Any carrion in wallows will repel deer, but this is probably not a good strategy! Sensitive areas prone to wallowing can have hard fill added to discourage deer.
- **Crops:** Brassica crops should not be too close to waterways. Watch stocking rates on crops, size of break, slope, overall area and stock classes used. Graze critical areas last. Plant cover crops after brassicas to prevent nutrient loss.
- **Soils:** These are your assets, so sediment loss is asset loss. Regularly fertility test soils so applications can be more targeted and precise. Overseer is expected to encompass deer systems within the next two years. Preserve soil structure from pugging; consider subsoil drainage, tile drains or a mole plough on wet soils and direct drilling rather than cultivation. Good soil structure also helps retain moisture in dry spells. When spraying out for a crop, ensure enough cover remains to protect the soil.



NZ Landcare Trust’s Janet Gregory (right) was one of nine “knowledgeable assistants” on hand for workshop attendees to consult.

- **Stock management:** Take care with placement of feeders, avoiding wet areas. Consider placing on a concrete pad. Create a buffer zone around troughs to prevent soil damage/loss. Underfed deer are more likely to pace fencelines, causing erosion.
- **Nutrient losses:** Phosphorus loss is associated with rain causing surface runoff. The worst nitrogen loss is caused by puddles of urine on cold muddy ground where nitrogen leaches through the soil and is not taken up by growing plants. Deer are

less of a problem than cattle for this as they mainly urinate on the move.

- **Water quality:** Test water for *E. coli*, nitrogen, phosphorus, water clarity and invertebrate life. Clear water throughout the whole catchment system is important to iwi in terms of biodiversity and food gathering (mahinga kai).
- **Regulation:** Rules vary between regions. Your environment planning should include identification of critical source areas and a plan with timeframe for mitigating the risks from these.

Advance Party presentations

Fresh impetus for Greta Valley Farm

Being part of the North Canterbury Advance Party has given the **Johnson** family a renewed focus on deer. The 201-hectare traditional sheep and beef property started running deer in 1997, but five years ago the Johnsons – Dean, Marilyn and son Tim – decided to start building their deer herd and winding back the sheep numbers.

To get a better match with their farming environment they have stopped breeding deer but have been building up a velvetting herd. Starting five years ago they’ve lifted stag numbers from 30 to 360, with an ultimate goal of 600+ stags. At the same time, ewe numbers have dropped from 1,200 to 700. Tim Johnson said the hot dry summers and wet cold winters are better suited to velvet than fattening weaners. They have also acquired some neighbouring land to graze their sheep in winter. Currently 110 hectares is deer fenced.

Velvet weights are now recorded.

Tim Johnson said the venison enterprise had been struggling and velvet looked more promising. In addition, the stags seem to be more resilient to the Johne’s disease that’s been a factor on the farm.

Another motivation for change was to create a better income stream that would support both Tim and his parents. A contracting business on the side also helps in that respect.

Another change has been the introduction of fodder beet to feed the deer over winter while resting pasture. Grazing maize is grown for the stags to help get them through the summer.

Tim said two years ago his father “gatecrashed” the Advance Party, which has given the farm business a boost and fresh ideas. “We can take feedback from the group without feeling overly judged. There’s a wealth of knowledge on tap. Because there are follow-up meetings there’s motivation to show progress for next time.”

He said the plan for the next five years was to deer fence the rest of the farm and increase stag numbers while building the contracting side.

Bede Crene, a member of the same Advance Party, said the group was impressed with the progress made by the Johnsons. He said a challenge was to keep the group fresh and look at ways to revitalise what they are doing.

Shot in the arm for R2 performance

Poor reproductive performance among first fawners has always been an Achilles heel for the deer industry. Peter Kalb and Tony Chittock reported to the workshop that South Otago Advance Party member **Maurice Judson** was experiencing the same

problems on his property near Balclutha.

Maurice runs 1,360 deer for breeding and finishing, 10,000 ewes, 3,000 hoggets and 220 cattle on 1,680 hectares. He breeds his own replacements using Deer Improvement genetics. That strategy has paid off, but high reproductive losses among the R2s remained a drag on progress. In 2016 they scanned 82 percent pregnant, but only 56 percent of those mated raised a fawn.

The Advance Party members brainstormed several factors that might have been playing a part:

- weight of R2s by mating (mature hind weight in the herd is lifting from 120 to 130kg, +7.6 %)
- losses during pregnancy
- disturbance during fawning
- mineral deficiency
- size of fawning mobs.

Maurice acted on all of these. Average mating weights for the R2s were lifted from 105kg (minimum 95kg) to 108kg (minimum 100kg). R2 fawning mobs were smaller and run in gullies rather than flat paddocks and one mob of the hinds were given Flexidine™ at set stocking.

Results were positive. R2 conception rates in 2017 lifted by 5.5 percent to 87.5 percent, while the fawning rate lifted an impressive 21.5 percent to 77.5 percent.

Peter Kalb said rescanning in September had shown losses weren't happening during pregnancy. The in-fawn mob that had received a Flexidine injection at set stocking weaned 100 percent, indicating much better fawn survival. He said more work is needed to confirm whether or not that result was a fluke.

Stock need clean water too

Geoff and Sam Pullar, members of the Southland Elk/Wapiti Advance Party, implemented several changes on their farm to get on top of high mortality rates (up to 25 percent) in their calves at less than 2 weeks of age, especially those later-born.

The main culprit was probably *Cryptosporidium*, a hardy and deadly parasite related to *Toxoplasma* sp. that hangs around in stagnant puddles. Later-born calves are more vulnerable because the parasite builds up over the season. Stress is also a factor.

The changes made in 2015 addressed all of these risk factors and included:

- reducing stocking density for calving mobs
- fetal ageing so later calvers could be run together
- not taking a baleage cut from calving paddocks – thereby

reducing stress, providing more cover and providing better feed for cows

- improving and completing the water scheme so calves were less likely to drink from stagnant puddles.

The Pullars reported that they have had no deaths from cryptosporidiosis since the changes were made, and calf deaths in general have been negligible for the past two seasons.

March of the drones

When **Jason Rentoul** (Tasman/Marlborough Advance Party) saw Geoff Smith's drone demonstration last year, he knew he had to have one too. (He's now onto his third one. The first was rendered inoperable after too much exposure to moisture, another got "totalled by a bird".)

As well as being fun to fly, the drone is proving itself as a stock management tool, Jason said. Shifting deer on steep country with a dog could be hard work and a deer in full flight could easily outrun a heading dog. Enter the drone.

He uses it mainly for shifting cows and calves on his hilly Marlborough property, but also for sheep and deer. "The cattle will fight the dogs, but they're fine with the drone. If you get too close they'll flick it with their tail."

Jason said the drone is more of a "heading dog than a



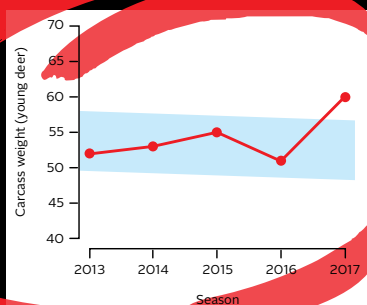
Photo from Jason Rentoul's drone while it shifts a mob into the yards.

huntaway" and can be limited when it comes to pushing mobs. He has tried fitting a siren, but it wasn't loud enough to have an effect. Low flying and stirring up dust clouds could sometimes help move

Benchmarked production and Johne's disease info on your deer

Deer PRO

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



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AP Workshop: continued

animals. As well as being good for shifting stock, the drone is also useful for crop surveillance and finding bare or dry spots.

He said his initial setup, a DJI Phantom 4, cost \$3,500 all up, including backpack and spare batteries, and has cost about \$80 per flying hour to date. “It can hover okay in up to about 65km/h of wind without any input from the operator but they definitely don’t like moisture. The horizontal range is only 500 metres when it’s at a low altitude and the height limit is 400 feet.

The units are still relatively light and fragile and made for filming rather than stock work. Payload capacity is limited (delivery of a bottle of wine was a failure, although some beer on a suspended paper tray got airborne).

Jason said the technology for drones is changing fast, and for stock movement it can already “do the work of two men”. It can also be used to position mobs ready for the musterer and dog team.

In the past 12 months he’s done 250 flights over 450km, totalling 40 hours and he’s finding the drone an excellent tool that “farmers should embrace”.

Jason’s presentation featured an impressive five-minute compilation of aerial footage showing all three stock classes being shifted. After this showing it’s likely more drones will be starting to appear in the skies over deer farms.

Matching demand and supply, quality and quantity

The Ruapehu Advance Party’s award-winning presentation was by way of a Skype conversation between the group’s facilitator Harley “BJ” Bowsher and chair Mike Rogers.

They presented two case studies where deer were underperforming their potential, partly through feed quality problems.

In the first case, the busy owner who worked off farm was building his deer numbers. There was a big mismatch between feed supply and demand at key times of the year, meaning young hinds were suffering from competition of growing stags. This led to low carcass weights, high empty rates and poorly grown young stock.

The Advance Party suggested several changes that put a better supply of good quality feed in front of the young hinds: offloading weaner stags, purchasing 150 in-fawn hinds, building the cow herd by 150 over 3 years, putting in a 20 hectare hill country spray



Pasture renewal featured in one of the Ruapehu case studies.

and pray crop for better winter feed and more emphasis on feed quality.

The changes helped improve performance throughout the herd. R2 pregnancy rates increased by 9 percent to 74 percent, R2 numbers were lifted, dry R2s were quit in August rather than November/December, but at similar weights, and weaner stag weights lifted by 10kg to 61.7kg over the three years to 2018.



Mike Rogers (left) receives the best presentation award from P2P Advisory Group member Gavin Sheath.

The improvement has also been borne out in the financial results, with gross farm income (GFI) for deer increasing sharply from \$81.63/stock unit (SU) in 2017 to \$123.60/SU in 2018. Over the same period, deer GFI/ha grew from \$1,202 to \$1,750, an excellent result.

The second Ruapehu case study also highlighted a deer enterprise performing well short of potential, with feed quality again a big factor. The lightly stocked 1,100 hectare property was growing plenty of feed, but testing in February showed the ME was a very low 7.8, and crude protein (CP) only 12 percent.

Beef cow and hind numbers were increased to better fit supply and demand, while steps were also taken to improve feed quality. These included pasture renewal (ME and CP 11.2 and 22.4 percent respectively) and pasture topping. Additional crop (60 hectares) is being grown to better maintain stock through winter.

The changes have helped bring slaughter dates for spikers forward by four weeks to February with a 6kg lift in average carcass weights to 56.4kg.

The Ruapehu Advance Party was awarded the trophy for best presentation.

Going for growth in Hawke’s Bay

Two members of the Hawke’s Bay Fast Finishers Advance Party showed how the growing industry confidence is being expressed on their own farms.

Richard and Emma Lawson had been having fawn losses at their farm, Glenbarr. When they analysed the losses paddock by paddock they found big variation, with tagging percentages ranging from 84 to 101 percent. Some of this was down to hinds and fawns moving between paddocks so the Lawsons made paddocks more secure with fawn-proof fencing and outriggers while being more choosy about fawning paddocks.

At the same time they grabbed the opportunity to acquire more space for their breeding hinds when a steep neighbouring farm



Advice from Advance Party members gave the Lawsons confidence to go ahead with buying a neighbouring property to give more space for breeding hinds.

came up for sale. They've ring-fenced it and are now starting to subdivide. Richard said the advice and support of the Advance Party had given them the confidence to push ahead with the development.

Fellow Advance Party members Geoff and Caroline Smith are also keen to expand their deer business and this year are expanding the 50 hectares of deer fenced area by a further 50 hectares, focusing on good fawning country.

Geoff said they have improved weaning weights by 15kg and now no longer have "fluffies" in the fawn crop. They planned to sell the remainder of their sheep in July and want to acquire another 600 hinds to become deer-only. Like the Lawsons, the Smiths put their confidence and success down to the support of the Advance Party.

Straight up

The Hawke's Bay Originals Advance Party has been in action for four years and starting to wrestle with how to keep up the great momentum they achieved from the start. The presentation was created by facilitator Richard Hilson. (He couldn't be there to present it, but one of the group members stood in.)

Pondering "keeping it up", Richard reported that each of the eight farms was visited twice in the first two years, putting quick runs on the board. Each farm was analysed quite intensively and projects such as the winter cropping programme yielded useful results.

Everyone in the group enjoyed being part of it and was keen to keep together, but they didn't want to undertake projects just for the sake of it.

They've slowed the pace to four meetings a year and may go to just two a year, with a focus on local issues such as drought being most useful. They've also connected with counterparts in other regions, having a successful visit to the South Otago Advance Party earlier this year.

The group is also mulling new directions or group projects focusing on areas like vaccination or environment.

Waipa group looks at feed quality

The Waipa Advance Party group stayed completely engaged during a two-hour presentation on silage quality by forage/nutrition specialist Trish Lewis, which goes to show there is still a strong appetite for relevant and timely information. Facilitator Ginny Dodunski reported that she is encouraging good feed budgeting within the group and there had been a general realisation that how much hinds were being fed was the key.

She said members use a variety of supplements including palm

kernel, maize, maize silage, grass silage and so on.

Each member of the group submitted a silage sample for analysis and they were interested to find the ME ranged from 9.2–12.0 while the crude protein varied from 12.0–20.7 percent. Trish Lewis gave the group great pointers on things like visual and sensory analysis, Ginny said.

Profitability of different feed options has also been studied. One exercise looking at the impact of lifting palm kernel from 40 to 100 tonnes in a year, for example, showed an overall improvement of \$144/ha in returns. Looking further, however, the benefit was all in the velvet and beef cattle parts of the business. Venison returns had actually dropped.

The group also looked at their relative returns per stock unit and per hectare. Generally the more highly stocked enterprises were doing better.



The Waipa Advance Party members use a wide range of supplementary feeds.

Member Ian Bristow said they were a diverse group who were happy to run a critical eye over each other's farms; all had learned a huge amount. "I managed to improve my R2 weaning figures from 65 up to 85 percent and then last year it was 93.5 percent."

Benefits of direct drilling, summer feed secrets

Wayne Pawsey and facilitator Justin Geary (South Canterbury/North Otago Advance Party) went through the advantages of direct drilling versus cultivation for fodder beet (see *Deer Industry News* June/July 2018, page 47 for report on this). They listed lower establishment costs, better weed control and higher utilisation among the benefits of direct drilling.

Looking at summer feeding (also covered in the previous *Deer Industry News*) they noted the advantages of red clover helping fill the gap when ryegrass quality starts to fall away.



Participants diligently fill out their evaluation forms at the conclusion of the workshop.

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AP Workshop: continued

On the subject of Farm Environment Plans they commended the *Deer Industry Environmental Management Code of Practice*. As part of the process they recommended documenting the farm's environmental status so that a start point could be referred to when showing improvements.

When I get home...

As a finishing exercise for the workshop, each participant was invited to stand up and say what changes they would make back on their farm as a result of attending. Here's a small sampling.

I'm going to do some water quality testing to see if the environmental work we do will make a difference. – Graham Peck, Canterbury Velvet AP

I will look at fertiliser use – the amount, placement and whether I put it on in certain areas. – James Hewitt, Hawke's Bay Fast Finishers AP

I'll turn up the dial more on the R2 hinds and get them through to puberty sooner. – Jason Rentoul, Tasman/Marlborough AP

I'm going to look at some of our data and fawning percentages to see where we can improve. – Emma Lawson, Hawke's Bay Fast Finishers AP

I will analyse more accurately where I'm missing targets when I'm looking at wastage – scanning, weaning and survival to sale. I want to see where I can make the greatest gains. – David Seifert, Central North Island Data AP

Not all pastures are equal. When I get home I'll be doing some pasture quality assessment. – Justin Stevens, Tasman/Marlborough AP

I'll be planting more trees, not just for the environmental benefit but also for [fawning] and for shade. – James Pearce, Canterbury Velvet AP

See the video

For a short video summary of the Advance Party National Workshop visit: <https://bit.ly/2u63CX9> ■

Trans-Tasman award for Josh Brook

An increased focus on production analysis is paying off for South Canterbury deer farmer Josh Brook, seeing him take home the prestigious Rabobank Farm Management Project award for 2018.

JOSH, WHO IS partner and manager of Rupert Red Deer, is a graduate of the 2017 Rabobank Farm Managers' Programme (FMP). The programme caters for progressive young farmers from Australia and New Zealand, providing the opportunity to develop and enhance their business management skills. He received the award and \$2,000 management prize at a dinner in Adelaide in late June.

Rabobank CEO Todd Charteris said Josh had applied the lessons from the programme to his business and was seeing tangible results.

"Josh put himself and his business under the microscope, which has given him a clear plan of how he can improve efficiency and grow the business," Mr Charteris said.

Josh and his wife Kiri run Rupert Red Deer, a 324-hectare stud stock and velvet operation on two properties in Peel Forest, South Canterbury.

His attendance at the FMP last year had "lit a fire under him" and, following his return from the course, he and Kiri decided to develop a business plan.

"One of the outcomes of developing the business plan was to start our stud brand – Rupert Red Deer – selling our top genetics as sire animals and selling our surplus young stock," he said.

"Our first sale increased our profit on selling surplus stock and opened our eyes to what our stock were potentially worth.

"We were able to strip out the data in our business and analyse our production dollar-by-dollar, cent-by-cent and kilo-by-kilo."

Josh said the process gave him the information he needed to

dissect the major profit drivers for the business and uncover new growth opportunities.

"One thing we discovered was the land we were using for our first-fawners was holding us back from producing our best genetics because hinds tend to get too fat on the highly-productive paddocks," he said.

"We found others were getting better results when hinds were on lesser country. We needed different land to improve results."

He said they are going to purchase a property with the right land class and contour.

The business plan he and Kiri developed also covered on-farm health and safety, environmental sustainability and personal health.

"We've made good progress on many of the short-term goals we initially set and are now putting together new goals for the next 12 months."

• Article supplied ■



Josh Brook, winner of the 2018 Rabobank Farm Management Project award.

Otago Regional Workshop: Feed energy sample surprise

by Tim Fulton, *Deer Industry News* contributor

A quiz comparing feed samples showed energy value in winter feed crops isn't as obvious as it seems.

THE P2P SOUTH Otago Regional Workshop at the Black Forest Park sale centre at Outram on 27 June asked farmers to estimate the amount of dry matter and metabolisable energy (ME) in several types of feed.

Three samples of silage and a baleage crop were on show as well as fodder beet, swedes, kale and palm kernel.

South Otago Advance Party chair Tony Chittock asked visitors to estimate the daily feed requirements at 10 megajoules/kg dry matter each for an 80kg weaner growing at 100g/day and a 130kg hind at maintenance.

One of the 45 participants attending the regional workshop, DINZ Producer Manager Tony Pearce, said it turned out the feed intake demands for both the hind at maintenance and the 80kg weaner growing at 100g/day was 2.6kg DM/day, as calculated on the P2P cellphone-based feed apps (www.deernz.org/deerapp).

There are three feed-related tools available: Feed cost comparer, Feed intake calculator, and a Feed allocation calculator. (The Feed cost comparer and Feed intake calculator are downloadable to your smart phone.) The growth curve charts are also available online through deernz.org/deer-growth-curves

Facilitator Peter Kalb from Clutha Vets said whereas per-hectare yields for a kale crop could be 20 tonnes, some fodder beet was heading toward 30 tonnes so it was easy to assume the beet produced more ME.

However, swede and fodder beet would normally have about 12% dry matter and 20-21kg of total wet weight to meet these daily feed demands (2.6kg DM/day) and it was the kale in the Outram sample that provided the most energy (ME) by volume.

The comparison “gets people thinking in terms of how much feed is really required” and shows some people have optimistic expectations of how much energy their stock consume from winter crop, Kalb said.

“Based on dairy research, 20-40 percent wastage is not uncommon in some of these crops. A lot of people think they’re getting better usage, but that probably isn’t correct.”

Fodder beet was being touted as a lower nitrogen-leaching crop because it had less protein but it created associated issues like low phosphorous and calcium. It was also recognised that weaners grown on fodder beet alone for more than two months risked a protein imbalance, and that high yields per stock unit could create pugging and soil damage.

All intensive wintering systems could have these issues but fodder beet was probably the most problematic, Kalb said. The



Participants at the workshop debate the pros and cons of different winter feeding options. Photo: Tim Fulton



A sample of kale used as a workshop prop: It was kale that turned out to provide the most metabolisable energy by volume, to the surprise of some. Photo: Tim Fulton

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Otago Regional Workshop: continued

workshop heard from South Otago farmers using self-feed silage pits for winter feed. Richard and Sarah Currie from Black Forest have a self-feed pit that can hold up to 90 tonnes of dry matter for about 200 mixed age (MA) hinds for 120 days.

The Curries' 246 effective hectare farm at Clinton winters 700 MA stags, 550 MA hinds and 240 R1 hinds.

This year, after an unusually dry summer, the Curries fed 50t DM of whole crop barley silage to about 180 MA hinds over 90 days in their self-feed silage pit. The feed mix was also different, with whole crop making up 100 percent of the ration replacing the usual blend of 75 percent whole crop barley silage and 25 percent grass. Feed was allocated at 3kgDM/head/day at a cost of 16c/kgDM (48c/head/day).

The balance of the Curries' hinds plus all the stags were wintered on crops, mostly fodder beet but also 3 hectares of swedes.

A focus mob of 150 R3 stags would utilise about 80 percent of a 5ha paddock of Brigadier fodder beet yielding 25t DM/ha weighed.

The rations included 5kgDM of fodder beet and 1kgDM of baleage per head per day for the 150 R3 stags which are shifted daily. The fodder beet cost 10c/kgDM and the baleage 38c/kgDM, based on \$100/bale plus \$25 transport (88c/head/day).

Currie said some years utilisation was better if it was dryer, while in a wet winter the farm could end up with quite poor utilisation. They shifted daily to minimise waste in wet conditions.

Wistaria Co Ltd's Maurice Judson manages 1,480 deer as part of a 16,500 stock unit sheep, deer and beef breeding and finishing operation at Awamangu, near Balclutha. Kale is used as a winter feed for a large number of the MA hinds, including 7 hectares that goes to 500 hinds from mid-June until early September.

Judson finds the hinds maintain their condition well and that kale is a simple, safe and cheaper winter feed option. The crop

yielded 20 tonnes DM/ha at a cost of \$895/ha (4.5 cents/kgDM) allowing for cultivation, seed, pre-emerge chemical, DAP and urea.

A 75 percent utilisation rate is applied to the crop with a daily allowance of 2.5–3.0kgDM/hind. The kale is block grazed and baleage added when the hinds are down to the last day or two on the stalks. The cost including baleage worked out at 20.6c/hind/day.

Willowpark's Henny and Maria Korevaar run just under 700 head on 90 hectares and have been farming deer for the past six years. They are breeders and finishers and have been breeding replacement hinds for the past couple of years. The Korevaars feed 215 weaners on kale and swedes, keeping 100 weaners on grass with baleage. Hinds in the hill block self-feed on silage through a 26-metre feed rack, while the R2s are on grass. The 96t of silage costs 20c/kgDM (10c for the grass and 10c for a contractor, including inoculant and cover).

About 60t has been fed to the hinds in the wintering area, costing \$60 per hind. The Korevaars were not able to make enough silage due to last summer's drought so they are feeding additional baleage. This has increased the cost of wintering per hind to 25c/kgDM, based on 10c/kg for grass and 15c/kgDM for a contractor.

Tony and Debi Chittock have 80 hectares of deer-fenced country on a 180-hectare breeding and finishing farm near Balclutha. They run 300 hybrid hinds, 260 weaners and 25 stags on the rolling, summer-dry property and winter feed MA hinds from a self-feed grass silage pit. The weaners are being wintered on swedes for the first time this year after being previously wintered on grass and baleage. The yearling hinds are still being wintered on that feed.

Silage cost 17c/kgDM (7c/kgDM to put in the pit, 10c/kgDM to grow the grass). Based on an estimate of 10t DM/ha, the swedes cost 11c/kgDM or \$1,089/ha, not including regreasing costs. ■



"Now that I have your attention" by Denise Pawsey. Highly commended entry in 2018 Photographic Awards.

Workshop findings

The Otago Regional Workshop participants split into three groups to discuss the pros and cons of three winter feeding systems, based loosely on brassicas (swedes and kale), fodder beet and self-feed silage pits and baleage. The main points were as follows.

Group 1: Brassicas

Pros	Cons
Easy to grow plus simple inputs (spray, fertiliser etc)	This year with HT swede for a few deer farmers, a possible herbicide-tolerance issue but being well supported by PGG Wrightson
Easy to feed	Requires strong environmental risk management at times, depending on topography. Environmental issues include soil structure damage, soil loss and runoff, P loss and water quality risks. Societal comments and expectations may demand reduced stocking rates in future, especially on wet soils
Cost effective at usual yields (8–12t)	
High ME crop	
Good aspect of rotation in re-grassing programmes	
Yields can be high	Limits to yields and failure risk (dry summers), compounded by poor soil fertility. Old cultivars can be variable
Keeps stock off often wet winter pastures	Visual appearance in public eye needs much better management and paddock siting
Good utilisation (feeding out control is easy)	Possible climate change (warming) impact on growth, pests and yields
Spray out old pasture and direct drill may be better cultivation options	Traditional cultivation techniques under scrutiny

Group 2: Fodder beet

Pros	Cons
High yields, 10cents/kg DM	Expensive to establish and high cost if yields are compromised
Less area required for relief grazing for rest of farm	Some areas will require irrigation for certain yield results
Highly palatable, no toxins	ME/protein balance unfavourable and requires additional protein sources or better management
Long grazing window	Good soil preparation needed. Early pre-planting preparation and early establishment time; may need precision drilling via contractor
Typically can be harvested, relocated and stored – cash crop	Cost of establishment and minerals/spray/fert applications; routine spray regime required for best results
High ME	Very low relative dry matter content
Grows in dry conditions	May need intensive feeding management systems, break/block fencing
Direct drill establishment gaining both yield and feeding out advantages (less soil damage on slopes)	Environmental challenges, including: Paddock damage in wet seasons, soil erosion loss risk dependent on paddock siting, risk of nutrient loss with overland flow on concentrated feeding area, <i>E. coli</i> load increases

Group 3: Self-feeding silage pits and baleage feeding

Pros	Cons
Low feed-out costs	Environmental challenges, including: runoff of leachate and winter drainage patterns in wet season; leachate runoff may need good management systems and can be expensive; high N loss; management of sediment and P accumulation down slope required; <i>E. coli</i> management can be an issue. Nutrient recycling not directed to the right places on farm
Feeding out management can be quite versatile and accommodates other species once deer have been wintered	Can be highly variable feed quality; quality silage-making process is key to success
Less wastage than direct feeding crops with good pit face management and feeding barriers	Needs experience and/or advice to get the stack feeding face managed well and at appropriate stack heights to avoid loss and collapse
Retains many options for balance of farm with stock removed	Not using crops but all grass can compromise a normal cultivation, fertiliser and regrassing programme
	Not every farm has the right terrain for pit construction and feeding out management; very specific and often associated with woodlots or free draining rocky outcrops

Data focus for Central North Island Regional Workshop

by Jill Galloway, *Deer Industry News* contributor

Understanding the role and value of data was the subject of a Central North Island P2P Regional Workshop held in Taupo on 13 July. About 30 people attended.

ATTENDEES WERE ASKED four main questions:

- What data is important to them, what do they use now and how?
- What data is not important to them?
- What data would they like to use more and what is stopping that?
- How do they compare/analyse how their operation is going?

Attendees brainstormed in groups on the data they most use, such as accurate stock tallies, financials, animal performance (hind conception dates, how replacement yearlings were growing and mating rates) as well as scanning for in-fawn percentages and annual kill weights.

The list grew quickly and was still growing when it came time to move on to the next section of the workshop.

Many already used targets for finishing weights and replacement weights, while schedule levels helped them decide when to sell. DeerPRO reports, performance of progeny (when single-sire mating), use of EID tags, breeding values and feed budgets were all part of the data mix discussed.

Then farmers were asked what data they were *not* interested in.

While no-one wanted “useless information” in relation to their production system, there was not much they didn’t want. Most said all data was valuable.

When asked what data they would like to use more, the group mentioned FarmIQ, individual growth and performance data, product produced per hind, pasture performance, growth rates, parentage and the use of satellite technology to measure pasture covers, particularly in steep country where accurate covers were a challenge to measure.

Most said time and work load stopped them using such information and when it came to parentage testing, cost was a big issue.

The last question was about how farmers compared their properties with other farms (on a national basis). Financial information, DeerPRO data and year-on-year animal performance were cited as examples.

Talking with other farmers “over the fence” about their deer operations was said to be often invaluable, in addition to simply looking at their own data on its own.

Improving velvet quality and quantity year on year or making environmental gains (e.g. deciding to plant 500 trees a year) were cited as good ways to set targets. Target setting based on last year’s performance was an important concept. Picking the right performance indicators to target, that take the farm in the direction the farmers want, was also an important discussion.

Peter Keeling, one of two Perrin Ag consultants helping run



Peter Keeling (left) and Matthew Carroll from Perrin Ag, who ran the Central North Island regional workshop. Photo: Jill Galloway

the workshop, said deer farmers use a whole range of data almost every day, “but there is not a lot of interest in the information that is not relevant to you”.

He said some data that farmers were interested in, such as individual fawn and hind performance, could be quite hard to get, especially on a large-scale property.

Parentage data could generate astronomical gains for a property once kill sheet and velvet production data is linked to individual maternal and paternal sires.

The group recognised that different types of data suited different situations. The things that were important for people starting out in the deer industry or for managers or owners who were not hands-on, could be quite different from the things that experienced people used to manage their operations.

“Common ways of comparing deer operations are through prices received and production per hectare,” Keeling said.

“You can relate this information to your budget. What is required are opening stock numbers, closing stock numbers, stock purchases, sales, births and deaths. You will have all this information; ease of access just depends on your filing system. There is not a great deal of information required to be able to do a year-on-year comparison.”

Perrin Ag consultant Matthew Carroll, who organised the workshop, said the right data can bring really useful detail to your mental picture of your farming operation.

“You want to know if your stag is shooting blanks or not. And you want to know about feed budgeting during mating and pregnancy. Therefore testing and monitoring will let you see if you are achieving your targets.

“An example of the usefulness of knowing the weights of animals can be used when predicting first fawners’ reproductive success. If you are underestimating the liveweight of your mature

hinds then you will potentially not be growing out your first fawners to achieve their full potential.”

He said a better understanding of what weights you should be targeting can be found using the Replacement Hind Conception Calculator on the DINZ website (deernz.org/replacement-hind-growth-curves).

“Everyone agreed, regardless of their operation, the more fawns on the ground the better.”

Carroll recommended the Feed Cost Comparer (available online through www.deernz.org/deerapp), which checked the dry matter content of each feed and compared costs of many feed types such as barley, palm kernel and maize.

“If you don’t measure it, you can’t monitor it; knowledge is power.”

Solis Norton from DeerPRO also attended the workshop. He said nationwide slaughter data originally collected as part of the John’s disease management programme had far more use beyond just John’s.

“Our database has slaughter weights and dates, gender and age group, plus the farm of origin for 4.5 million deer. We saw an opportunity to feed benchmarked production information from it back to farmers.”

He said the DeerPRO farm report gave a five-year performance summary for any farm.

“Compare venison production from your farm over the past five years and compare yourself to industry benchmarks. It’s ideal for measuring the impact of management changes you’ve made, or for setting goals for next season.”

Norton said the information was free to farmers on request (email info@deerpro.org.nz).

“One request will put you on our list; we’ll email you an updated report each season. I am conscious of not filling up your inbox with rubbish. We keep the report short but robust. Then it is up to you to use it.”

He said the DeerPRO information was free and would be sent automatically once the request had been made.

“As always, the information is never distributed to another party without your personal consent. We take privacy very seriously.”

He said more than 400 deer farmers, accounting for 60 percent of the deer, receive a DeerPRO report.

Carroll said farmers were already using a lot of data such as animal growth rates and pasture growth, but could use more from DeerPRO.

He said people at the workshop were concerned about the time factor for the use of extra data.



Some of the almost 30 people at the Central North Island regional workshop debating which data they used and what was useful.
Photo: Jill Galloway

“Data by itself is one thing, but farmers need the useful information that can be drawn from it,” Norton said. “The DeerPRO report is specific, helpful information for your farm, so why not use it?”

He said people didn’t want what they didn’t need, and what they needed depended on their system.

Carroll said Advance Parties were getting people to start sharing more information, a good thing for the industry.

“The first few meetings we had, people were reserved. But now they know everyone and talk more openly about their businesses. They are not so much challenging others, but talk more about why someone does something.” ■

Pairing hinds and fawns to identify best genetics

Sharing of more information helped her family set up a deer breeding unit, said Dorothy Young. She and her family have a breeding unit at Kaharoa near Rotorua and a velvetting farm near Taupo.

The velvetting farm was visited by the Central North Island Advance Party, of which the Youngs are members.

Most experienced people rely on their knowledge and some data to run their operation, but newer people to the industry need data to help run their deer units, she said.

Kevin Morley has almost 30 years’ deer farming experience, with Young describing him as the “grandfather of the deer industry”.

She said Morley’s knowledge helped them a lot when they were getting started. “He imparted his knowledge graciously. We wouldn’t be where we are without his help.”

Morley pairs fawns and their mothers so he can identify the dams of the best velvetting deer. To do this he gets about five fawns in the shed, separated from the hinds, and marks each.

“I keep the fawns in the shed for at least four hours. Mum is outside calling, as she is full of milk. That’s how I know.”

After that he watches each hind and fawn get together using a good “\$2000 to \$3000” pair of binoculars. The technique is about 95 percent accurate, he says.

“I have followed the offspring of hinds and done thousands this way. There were perhaps 15 that had the goodies [that bred stags with good quality and quantity of velvet].”

Morley said antler is a highly heritable trait, and while the older hinds might have gone, their daughters continued producing stags with good velvet.

“By the time I know she can [keep producing superior velvetting stags], the hind might be 10 years old, but her daughters carry the same genes.”

Central North Island Advance Party fact file

- First meeting: 17 August 2016
- Number of farms: 9
- Meeting frequency: Aim for every two months
- Range of deer farm sizes: From 130 hectares to more than 3,700 hectares deer fenced
- Production systems: breeders, breeder/finshers and breeder/velvetters
- Aims: Look more in-depth at farm systems and financial drivers for businesses

Strength through diversity for Mid Canterbury AP

You would think a high country deer breeding operation wouldn't have a lot to learn from an intensive fully irrigated, lowland finishing farm, or vice versa. But you'd be wrong. *Deer Industry News* Editor **Phil Stewart** joined a Passion2Profit Regional Workshop at the Ashburton property of David and Hilary Ward on 13 July, and found an Advance Party that's energised by the diversity of its farms.

ABOUT 30 PEOPLE attended a rewarding day, which was put on in association with Canterbury West Coast DFA. Several members of the Mid Canterbury Venison Advance Party – facilitated by Lorna Humm – shared what they have got out of being in the group. And it turns out to be plenty.

A common theme was that you can learn more from looking at a deer operation that contrasts with your own, than if you were part of a homogenous group of very similar farm systems. For one thing, it gives those who exclusively breed or finish a much better insight into the challenges and opportunities faced by the person at the other end of the business relationship.

David Ward, Radfield Farm: Flying into winter

The Wards have been finishing deer for the past 20 years. The intensive, flat, fully irrigated 384 hectare farm is at Fairton, just outside Ashburton. They have two full-time and one part-time staff and do all of their own farm work except fertiliser spreading.

A “typical” deer farm, this is not. But a profitable operation it is, and it was an eye opener for visitors to see how well deer finishing can fit in with other intensive land uses.

The property finishes about 6,000 lambs a year and grows commercial vegetable and grass seed crops. This year they are finishing about 950 weaner deer supplied by Canterbury breeders with whom they have a solid, long-term relationship. David said those relationships have been built up over years and each party understands the give and take that can be needed – for example in a drought year when the breeder needs to quit the weaners early.

In the first paddock we visited, weaners were filling up on pea vine silage fed out onto a ryegrass pasture. The paddock was due to be drilled with process peas in late August, for harvest in early January next year. That crop will be followed by Asset ryegrass grown for seed, but the new grass will be available for the 2019 crop of weaners to graze when they arrive in March, right through to October. At that stage the weaners make their journey to the works and the paddock is shut up for seed production. The seed will be harvested in February 2020 and then the paddock will be



David Ward.

“A key change – one that's come about through the input from other Advance Party members – has been managing the transition for weaners from breeding property to finishing farm.”

ready for the next crop of weaners. And so the cycle continues – this all fits in well with the weaner growth curves, Ward explained. He added that following the nitrogen-fixing peas with ryegrass works well, with weaners coming onto “rocket fuel” covers of about 2,500 kgDM/ha. “Boy can they eat!”

He's not too worried about achieving super-high growth rates through the coldest months because he's able to give the weaners a flying start through autumn. A lot of that is down to good health and good feeding. In addition to good pastures and supplement, the Wards also have access to plenty of reject red beet, onion and squash, which the weaners Hoover up.

From August, the weaners are regularly weighed and fed accordingly.



Weaners enjoy some surplus vegetable crop as part of their winter diet.

But a key change – one that's come about through the input from other Advance Party members – has been managing the transition for weaners from breeding property to finishing farm. Lorna Humm explained that the members recommended simplifying the system so that weaners are less stressed by the move and can make a better start. That has meant starting the animal health programme earlier, with the breeder paying for and giving the weaners their first Yersinavax shot and drench (Eweguard, a moxidectin with 5-in-1 vaccine on board, plus combination oral drench) before they are trucked to the Wards.

While it does mean they are technically being drenched onto clean pasture – not ideal because this doesn't help provide refugia

to avoid resistance – the reduction in stress makes a big positive difference to autumn growth rates. David said they don't need to get the weaners in until 28 days after they arrive, when they get their second Yersiniavax shot and a second drench with the same combination. (Later they change to a triple combination drench before switching to a white drench closer to spring so that withholding periods are complied with.)

The Wards direct drill in most cases, with cultivation being used only for crops like spinach and radish seeds, which need it. David said they need only about 2.5 litres of Roundup and a pre-emergence spray with the direct drilling. With high organic matter and good soil structure the Lismore and Eyre stoney silt loams are not so prone to pugging by the deer through winter.

Mike Galbraith, Lilongwe Farm

This is also a finishing farm, with weaners supplied from Mendip Hills in North Canterbury. The Black family owns both Mendip Hills and Lilongwe Farm.

Mike said one challenge as a finisher was the drawn-out supply of weaners from Mendip. The first muster were arriving in February and included a range in weights with later-born fawns posing a challenge. The stragglers are not trucked down until July. He said that in contrast with the setup at Radfield, the weaners from Mendip get a fairly tough introduction to life as a finisher. They are mustered by helicopter for their first and only visit to the Mendip shed. There they are tagged, given Yersiniavax and put on the truck for a four-hour journey to the finishing property. "It's a big ask," Mike admitted.

Once they arrive life gets better fast, however. They start on lucerne, putting on 335g/day before moving to fodder beet and ad lib lucerne baleage for the winter. Mike said they have lost only two or three out of 1,000 weaners this year. "They're looking good – bouncing around in the evenings now."

Lorna Humm said the Advance Party group visited Mendip and worked with the manager Simon Lee on ways to get weaners off the property earlier. "They are now weaning earlier to get hind condition back up for mating and they are taking the stag out earlier to avoid having late fawns. They've been looking at their replacement hinds and getting them up to optimum weights faster so they conceive earlier."

She said the Advance Party as a group had been able to work constructively with both Mike and Mendip Hills to iron out some of the supply issues. Mike has also changed his drench programme, also now using an injectable moxidectin for the weaners.

Lindsay Paton, Orari Station

Lindsay moved farms and Advance Parties two and a half years ago when he migrated from the Mackenzie country to Canterbury's

high country Orari Station as manager.

He said the strength of the Mid-Canterbury Advance Party is its honest discussion and willingness to share and take up new ideas. "[The ideas] don't all work, but a lot do."

At Orari, the Advance Party members suggested simplifying the breeding, finishing and velvet operation by not trying to run half of first-fawners with a terminal sire. He said about 400 replacement hinds join the 1,550-strong herd each year. It's an extensive system with hinds handled only twice a year (weaning and scanning).

About half the R2 replacement hinds were being mated to a terminal sire and the balance to maternals, but raising the bigger fawn had taken it out of them and only 50–60 percent of those mated to terminal sires were getting in fawn the following year. By putting all of the first fawners in the maternal mob, the in-fawn rate for second fawners jumped to the mid-90s.

Lorna Humm said the owners at Orari Station were very supportive and receptive to the input from the Advance Party.

John Bartholemew, Ruapuna

John runs elk/wapiti. They had been running about 100 cows but it wasn't a particularly profitable operation (they also graze dairy heifers). Swinging the focus to breeding for velvet and building a velvetting herd has turned things around, however.

John said the group provides excellent networking and he's constantly surprised by how much he is absorbing and taking home to try on his property. One practical outcome has been some advice from the group on the layout of a new set of yards, he said.

Aubrey Aitken, Cairnhollow

Aubrey has been deer farming 28 years and shifted from Southland to Canterbury 13 years ago, running 200 hinds on a newly irrigated property at Ruapuna with son Lawrence. He says he is probably one of the few deer breeder/finishers on the Canterbury Plains now. "We didn't buy in any weaners this year – they were too expensive." (Lorna Humm noted that the fairly stable schedule might relieve the supply pressure, with breeders more willing to release weaners to finishers rather than trying to finish everything themselves.)

He remains confident though, and sees good value in the Advance Party. "Gee it's great group! I thought we had everything sorted out but [with the input of the group] we've made changes to things like drenches, copper, genetics and using Advantage feeders – they've all made a big difference."

Aubrey said that even on an intensive, irrigated Canterbury property, deer are now almost level pegging with other stock classes at the current schedule and he is hoping to increase his breeding herd.



Lindsay Paton.



Mike Galbraith.

Mid Canterbury: continued

Why Yersiniavax?

Vaccination to protect against yersiniosis is commonly used by members of this Advance Party. When questioned about why they would spend the extra every year, they were adamant about the value.

David Ward said that in an intensive system, if a problem develops you will quickly see “a lot of dead deer”. He prefers to manage the risk properly by feeding his animals well and vaccinating. It usually takes only one bad experience to ram the lesson home and in David’s case, this happened about 15 years ago. “We had a mob of stressed weaners. They got their first vaccine shot but not their second. In June we lost about 35. I never want to go there again. The risk is always there – the vaccine reduces that risk.”

He said the total animal health bill, including the second Yersiniavax (the breeders pay for the first shot) is about \$18/head. “That is not excessive. If I can get them up to heavier weights and 2 or 3 weeks earlier, it’s a cheap investment. Getting them away for slaughter earlier is also important to fit in with our cropping programme.”



Vaccine reduces yersiniosis risk.

Mike Galbraith is also cautious and vaccinates every year. “Back in the 1980s you’d see truckloads of dead deer [from yersiniosis outbreaks]. We’ve been using the vaccine since it came out.” He said the vaccine reduces, but doesn’t completely eliminate, the risk. “We lost some last year because the weaners were too stressed and thin when we vaccinated – but we won’t stop vaccinating.”

Duncan Humm said a yersiniosis storm in a herd was a reflection on your own management. “Why take the risk?”

Tom Macfarlane said you can’t control things like the weather, but you can control other risk factors like feeding and shelter. He had also lost vaccinated bought-in weaners to yersiniosis, but like the others, put that down to the animals being stressed and light – another illustration of why managing this disease risk is down to much more than just the vaccine.

Lorna Humm noted that the organism that causes the disease is always present in the animal’s gut but when the animal is stressed and stops eating, the bug quickly grows out of control, causing dehydration and death. “Older, fitter, unstressed and better fed animals can resist infection better.”

Workshop session

Consultant and Advance Party facilitator Wayne Allan ran a workshop focused on setting measurable and achievable targets, using a cycle of continuous improvement to get there.

He said targets needed to focus on things that make a difference and provide a significant potential benefit. To set targets you need to know where you are now, which will involve some measurement (e.g. weights or pasture covers at key times), he explained.

Once targets had been identified, you can identify the steps needed to get there and put things in place to get started. Wayne said lead indicators such as profit per stock unit or per hectare, income: expenditure ratios or carcass weights per hectare would need to be monitored to track progress.

He recommended a “cycle of continuous improvement”, which allows some flexibility to monitor progress and adjust a plan along the way so any issues can be managed.

A simple example for a finisher’s target was a lift in carcass weights by 5kg over 3 years, with weaning weights or weights on 1 June, acting as lead indicators, he said.

Wayne noted that there were big differences between high-cost and low-cost farm systems. “It’s important not to get caught in the middle.”

Working groups identified key drivers for velvetting, breeding and finishing systems. They identified key drivers for their areas and individuals thought about opportunities within their own farm business. Finally they looked at actions they might take to meet targets and what indicators they would use.

Velvet

- Get genetics and nutrition for replacement stags up to speed quickly so that true performance potential can be identified early.
- Quantify your objectives, e.g. \$/head, kg/head, grading percentages (e.g. 80 percent of spiker velvet graded Spiker 1).
- Link observed outcomes to inputs such as nutrition.
- Decide what to feed and when.
- Velvetting stags do better if they are fed well all year.
- Consider stocking rate: sometimes lowering this can actually result in an overall increase in velvet production per hectare.
- Use the advice of others (e.g. other Advance Party members) to help identify weaknesses in your system.

Finishing

- Feed quality (or lack of) is the biggest influence on success.
- Consider short rotation ryegrasses, plantain, clovers, etc.
- Transition fawns to new feeds well before weaning (e.g. 2–3 weeks).
- Talk to your breeders about the genetics you want to suit your system best.
- Fewer, bigger animals can be more productive and profitable than a lot of smaller ones. It’s easier to put more weight on a larger animal from the start.
- Keep animal health front of mind and keep up with developments in things like drenches and withholding periods.
- Farm systems will vary, but at present with a flatter, high schedule, there is more flexibility and less pressure to catch the traditional “spring peak”.

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Hind lactation: When feeding really matters

by Phil Stewart, *Deer Industry News* Editor

Spring is approaching, fawning is around the corner and that means one thing: it's time to make sure your breeding hinds are in good body condition to withstand the demands of lactation.

WHILE HINDS HAVE a great ability to adapt to environmental challenges, it's unwise to test the boundaries. In fact by feeding hinds well in the lead-up to two crucial periods – fawning and mating – you'll be ensuring they and their progeny can produce to their full genetic potential.

This is best illustrated through two scenarios: bad and good.

A bad nutrition situation

Let's start by looking at a red hind at the end of a hard dry summer.

The hind had gone to a terminal sire and didn't fawn until the end of November, just as the farm was going into a prolonged dry spell and the quality of the old run-out pasture was deteriorating. She struggled to maintain condition through lactation and her late-born fawn was slow to grow. Her body condition score (BCS) is down to 2 or 2.5 as she's milked "off her back" to support her demanding hybrid fawn.

Supplement and pasture supply is tight, and when weaning finally comes she's still in pretty poor shape – barely a 2.5. The fawn is smaller and lighter than ideal and can't be pre-rut weaned. There's some autumn rain and her condition finally starts to pick up a little, but it's been a struggle. She finally conceives, but late – not until early May.

Although there is some winter crop, the farm is still feeling the effects of the dry spell and in the cold spring that follows it's been hard to lift her condition even to 3.0 as fawning approaches. This time she fawns, but it's later still – the end of December...

A good situation

Now let's wind back the clock to late summer and a new situation.

It's been a dry summer but the farm has prepared well. There is plenty of supplement on hand, and hinds and fawns have also had access to some lucerne through the worst of it. There's been a pasture renewal programme and some good short-rotation ryegrass, and ryegrass/plantain mixes are also available for the deer. The hind had come through the previous winter and spring in good condition and she's held up well to the demands of lactation.

While she has lost some condition at pre-rut weaning, down to about a 2.5–3.0 BCS, her fawn and others in the mob have reached target weights by weaning on 1 March, having started on some grain earlier in February.

Once her fawn has gone, the hind has a window of two or three weeks before the stag is introduced, and she quickly picks up condition to a 3.5 by joining. She conceives on the first cycle and goes into winter looking good. When fetal ageing is done, her due date is calculated – she'll be fawning around mid-November.

What it means

Those are two contrasting scenarios, but most farmers will recognise elements of each. In the "bad" scenario there's a chain of linked events that make it harder and harder to reach targets – it's a downward spiral.

In the positive scenario, a good situation by the end of summer flows on through the seasons, helping the hind conceive early, fawn early and raise a fawn that grows fast and will reach target finishing weights (or liveweights for replacement hinds) before next summer.

On farms that breed and finish, getting the yearlings off to slaughter early takes a lot of pressure off the system and means you can focus resources on feeding the hind and its new fawn.

Lactation

Lactation normally peaks 3–4 weeks after fawning and then slowly declines – similar to the pattern for dairy cows. As long as a hind is fed moderately well, she can support high milk production for her fawns. Lactation is driven by the fawn and the hind needs energy during this demanding period, more than protein.

By the end of February, 85 percent of lactation is complete and any suckling from this point is more about bonding than nutrition. For those who post-rut wean, by May the fawn is getting its energy from what it eats, and minimal nutrition from its dam's milk. Once lactation has declined, it can't be increased again. Levelling off the decline for a while is about the best you can hope for. By July, lactation has all but ceased – this is a response driven by daylength.

Because the fawn drives lactation through its demand, an F1 fawn will take more out of its straight red dam than a red fawn will take out of the same red hind. Research at AgResearch Invermay has shown that a red hind rearing a first-cross wapiti fawn will produce 30 percent more milk than a red hind rearing a red fawn.



Poor pasture quality in late summer means hinds can no longer properly support their fawns.

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Hind lactation: continued

When the quality and quantity of feed is inadequate, the hind will start to milk off her back and start that downward spiral that makes it harder to get her in the right condition in time for mating.

What it means for the fawn

If a hind was in good condition for fawning, the fawn may not suffer, even though a nutritionally deprived hind is sacrificing body condition to feed it. But if she starts lactation in poor condition there's a limit to how much she can do this. The condition of both hind and fawn will suffer.

Bouncing back

There is an upside. Hinds can put on condition very quickly in time for mating if they are weaned beforehand. In as little as 10 days, hinds supplemented with something like grain can achieve a remarkable lift in body condition score in time for mating. If you end up with poor condition hinds in early March, then investing in feeding the hind for a relatively brief period is likely to be a very good return on a modest investment. It will protect next year's production from the impacts of the current seasonal conditions.

Summary

- Ensure hinds have a BCS of 3–4: in time for **mating** and in time for **fawning**
- Potentially separate the poorer condition hinds and preferentially feed at the critical times pre-set stocking and pre-rut.
- Make sure you can provide hinds and fawns with quality feed during lactation, e.g. a runoff crop.
- If necessary, put supplements into the system during the second half of lactation. This stops hinds losing too much

condition and it helps fawns transition to weaning better.

- Wean early if you can (1 March, or possibly earlier if dealing with severe drought conditions), to give hinds more time to recover body condition before mating.
- Strategically feed hinds good quality supplement for 10–14 days before mating to lift their condition score.

Body condition scoring

Two resources are available to help you use body condition scoring to monitor hind condition for these two crucial periods:

- Download the body condition scoring chart from: deernz.org/bcschart
- Watch the videos “How to Body Condition Score Deer” and “How BCS affects Conception Rates” on: deernz.org/body-condition-score ■



A summer crop can help maintain condition through into late summer and autumn.

Mid Canterbury: continued

Breeders (and breeder/finishers)

- Key targets include fawning percentage, weaning weights, conception rates in R2 hinds, conception dates and growth rates
- Weaning weight is a big target for breeders: don't over-reach goals, e.g., aim for a 6kg improvement, but spread over several years.
- Break it down to key actions, e.g. novel forages, more red clover to improve hind lactation, more weighing.

Environment Award

David and Hilary Ward were formally presented with the 2017 Gallagher Technology and Innovation Award at the workshop. The award is for excellent utilisation of farming technologies to improve on farm productivity and manage resources.

NZ Landcare Trust's Janet Gregory said the judges were impressed by the Wards' no-tillage system, excellent knowledge of their soils, steps to improve moisture retention, native plantings and appreciation of the local natural environment.

David Ward said the whole industry is innovative and after 20 years he still loves being involved.

- Venison for the after-workshop barbecue was kindly supplied by Alliance Group Ltd. ■



Hilary and David Ward receive the Gallagher Technology and Innovation Award from judges Lindsay Fung, DINZ Environmental Stewardship Manager (left) and Janet Gregory, NZ Landcare Trust (right).

Waikato Regional Workshop views high-intensity operation

by Phil Stewart, *Deer Industry News* Editor

With venison and velvet now generating high returns, deer are showing increasing potential within high-intensity systems on valuable land – something of a reversal of the trends seen in recent years.

VISITORS AT A P2P Regional Workshop at Ian Scott's Oraka Wapiti in Waikato on 28 November last year saw how the principles from an intensive dairying business can be applied to deer.

Maize has long been the engine room of Scott's business, which includes spring and autumn calving herds and extensive use of supplements.

A \$750,000 herd shelter is a key feature, providing not only a way to protect cow health and welfare, but also increase efficiency of use of supplement and provide a nifty system for recycling nutrients between farms. Effluent in the shelter is captured and absorbed onto wood chips, with any drainage passing through weed matting and finally gravel, before being channelled into effluent ponds. The wood chips capture virtually all of the nitrogen, phosphorus and other nutrients and are disced back in to grow the next maize crop. Scott said it has taken some trial and error, but he's happy the system is working well now.

He is a strong believer in maintaining good soil fertility and despite having continuously cropped some of his land for up to 25 years, the principles are obviously working. Organic matter is increasing – reaching 10% on the maize block. He pays close attention to the health and colour of his crops and pasture as an indicator of fertility levels and nutrient balances.

Scott manages a large and quite complex business, now running 8,000 stock units including approximately 1,200 wapiti and red



Ian Scott (back to camera) talks to visitors at the workshop. Photo: Ginny Dodunski

deer. But despite the complexity, he is motivated by a fairly simple notion – to follow sustainable production practice, which means being economically viable as well as protecting the environment. And he certainly seems to be achieving that, grossing \$8,000–9,000/hectare from velvet, for example, and installing over 20,000 native plants.

He also takes a fairly simple and direct approach to managing his animals. Given that milk production is strongly driven by metabolisable energy intakes, he uses that as a lever throughout the year. Overall, his cows carry much better condition almost all of the year than would be normal on other dairy farms, and he is rewarded by improved productivity and reproductive performance. But he doesn't waste feed either. "I stop milking a cow when she's not making money any more."

The herd shelter is a boon. Cows soon adapt and will bring themselves to the shelter, happily lying on the woodchips in preference to grass. He said it is the nutritional variability in grass, rather than supplement fed, that can cause metabolic diseases in cows. The shelter allows Scott to control feed rations.

He integrates his deer and dairy operations. Much of the dairy area is deer fenced, allowing adult deer to "clean up" paddocks after a grazing by the cows. While the dairy herd may graze down to a residual of 1,600kgDM/ha, this leaves more than enough



Deer would thrive in shelters like these, Ian Scott says. Photo: Ginny Dodunski

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Stick to 1 October limit for trucking pregnant hinds

by Phil Stewart, *Deer Industry News* Editor

Transport is the focus for the deer industry amidst a large tranche of new animal welfare regulations. The Animal Welfare (Care and Procedures) Regulations 2018 come into effect from 1 October and the good news for deer farmers, transporters and slaughter premises is that by continuing to comply with existing deer industry standards, they will also be complying with the new regulations.

THE REGULATIONS PROVIDE the Ministry for Primary Industries (MPI) with additional tools to respond to lower-level offending and support the tools already available under the Animal Welfare Act, which can include prosecution and a criminal conviction. Failure to comply with deer-related regulations in this case is an infringement offence, carrying an infringement fee of \$500 or more depending on the severity of harm caused and numbers of affected animals. For more serious cases in breach of these regulations, prosecution is also a possibility.

DINZ Quality Assurance Manager John Tacon says the regulations mirror established industry best practice under DeerQA. “Anyone responsible for the welfare of deer should be aware that there is now a more robust legal framework around the way we handle the animals.”

He says the regulations about transport sheet home responsibility more clearly to farmers, transporters or slaughter premises. While drivers don’t have primary responsibility in the case of some of these regulations (e.g. deer in late pregnancy), they can assume responsibility where a veterinary exemption has been issued and certain conditions have to be met during transport. The transport regulations relate to transport of animals to any destination, not just transport to slaughter.

Don’t transport pregnant hinds after 1 October

Of particular interest is the regulation concerning transport of animals in late pregnancy. No livestock classes can be transported in late pregnancy without a veterinary certificate, but for deer there is an added caveat: the hind can be no less than 21 days from its due date.

Tacon says that because it’s often hard to estimate deer due dates with great confidence, the Transport QA programme recommendation that no pregnant deer be transported after 1 October will remain in place. “Unless you have very good records on conception and due dates, it’s best to leave this wider safety margin when transporting pregnant hinds.”

New regulations

Seven of the 64 new regulations relate specifically to transport of deer, as follows:

Injuries from transport: The way the animal is loaded,

unloaded or transported must not cause acute injury. This regulation applies to the transporter.

Horns or antlers: Animals with horns or antlers must not be transported in a way that allows them to seriously injure themselves or another animal. This regulation applies both to the owner/person in charge, and the transporter. (Tacon says for practical purposes, farmers should interpret this by sticking with the 110mm limit as set out in the DeerQA standard.)

Back rub: The animal must not be transported in a way that causes abrasions along the top of the head and back (not “arse rub” which is a separate type of injury – this would be dealt with under the regulation above covering injuries from transport). The back rub rule applies to the transporter. John Tacon says it’s rarely an issue with deer and applies mainly to cattle.

Injured/bleeding horns or antlers: Animals with bleeding or broken (and unhealed) velvet or pedicle must not be transported. Exceptions to this rule include:

- natural casting of antlers
- spikers that have been develvetted can be transported to a processing facility within 72 hours but must have the NaturO™ rings still attached
- transport within the farm or to another farm less than 20km away for treatment.

A veterinarian can provide an exemption from this rule (to slaughter only) with a Veterinary Certificate for Transport to Slaughter. The rule applies only to the owner/person in charge, not the transporter.

Lame animals: Animals that can’t weight bear or have a pronounced limp must not be transported. As above, an exception is made for journeys for treatment within a farm or to a farm less than 20km away. If a limp is from a healed injury or conformation issue and is a non-painful condition, then the rule doesn’t apply. The rule applies only to the owner/person in charge, not the transporter. A veterinary certificate is still required to transport any deer that cannot bear weight on all four limbs.

Late pregnancy: Animals in late pregnancy (no less than 21 days from due date for deer) cannot be transported. It’s an offence and MPI would respond if a female gives birth during transport or within 24 hours of arrival at a slaughter premises or saleyard. This is the responsibility of the owner/person in charge of the deer, not the transporter. For practical purposes, enforcement will be based on assuming that 1 October is the date 21 days prior to fawning.

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Overseer® upgrade



Overseer Limited has introduced a new model, OverseerFM, which is “simpler and faster to use”, according to the company.

Changes with OverseerFM include:

- easier and faster data entry
- a new interface
- changes the way users create and store farm data, creating one farm account as a single source of truth; the farm account owner controls access
- smooths model version changes by storing analysis over time
- makes it easier for regulators to audit farm analyses
- increased user support.

“Having a single farm account aims to reduce the duplication of effort within the industry when many professionals modelled the same farm for different purposes,” said Overseer Limited chief executive, Dr Caroline Read.

“It increases the consistency of farm modelling through everyone working off the same information and it allows farmers and farm managers visibility and control over what happens to their farm information.”

The centralised farm account in OverseerFM replaces the XML files in the legacy OVERSEER software and instead allows users to “publish” information to councils as required, similar to submitting tax information from online accounting software.

OverseerFM will be free to use for the first six months and will then be available under subscription from January 2019. Overseer Limited is a non-profit public good company and subscription fees will be used to resource ongoing development of the software, as well as deliver better user support.

- Article supplied ■

Photo: John Pons

Trucking: continued

Electric prodders have been banned for use on deer at all times except at stunning boxes in slaughter premises.

Certain regulations do not apply to transporters (regulation 44) and are focused on the owner or person in charge. These relate particularly to regulations for animals that require a veterinary certificate to be transported. While the transporter cannot be issued an infringement fine under these regulations, for severe cases that warrant a response greater than a regulatory infringement, both the owner/person in charge and the transporter may be prosecuted under the Animal Welfare Act.

Obligations of transporters (regulation 45) regarding animals accompanied by veterinary certificates. The transporter must comply with the conditions on the veterinary certificate. In particular that means transporting the animal(s) to the slaughter premises specified on the certificate.

Next regulations to cover surgical procedures

MPI is currently working on a second set of animal welfare regulations. These focus on “significant surgical procedures” and will encompass deer velvetting. Other procedures to be covered that apply to all production animals, potentially including deer, involve hot branding, embryo collection (surgical embryo transfer), laparoscopic artificial insemination and liver biopsy. These are likely to come into effect in 2020.

- MPI has a guide to the Animal Welfare (Care and Procedures) Regulations 2018, including a link to the full document, which can be read at: <https://bit.ly/2NZRq2n> ■

Waikato: continued

behind to provide good nutrition to adult deer, while making pasture quality management far easier than on the average dairy farm. He noted that deer don’t tend to damage gateways like cows do but appreciates there are other environmental factors to consider.

He thinks young deer would soon adapt to life in a shelter and thrive in the environment. The fact that deer have dry faecal pellets makes wood chip an ideal bedding, and keeping them off pasture removes the North Island challenges of facial eczema, ryegrass endophytes and pesky parasites. He has already trialled systems to modify deer behaviour to prevent feed wastage. For example, deer can be trained to eat maize silage through vertical-slat head spaces which discourages them from dropping feed.

Scott said it could be possible to get hybrid deer putting on 250–300g/day through winter given the right conditions, growing up to a 100kg carcass at 15 months. “In a strong venison market with the schedule at \$10+ it opens up a lot of possibilities. A lot of it is about conversion efficiency.”

Achieving top performance would also require an open mind about stock management – for example, could hinds be run on a support block integrated with dairy replacements and autumn-calving cows? “By running the weaners in a shelter, I could be running more hinds/stags on pasture, producing more weaners and velvet.”

Whatever the future holds, with variations in markets, increases in regulations and an increasingly unpredictable climate, one thing remains certain – Ian Scott will be at the forefront of sustainable performance: production and protection of the environment. ■

Consent to farm: Coming to a region near you

by Lindsay Fung, DINZ Environmental Stewardship Manager

Deer farmers who have been keeping an eye on the ongoing debate about water quality will not be surprised that regulatory scrutiny of farming is increasing across the country.

THIS IS MOST keenly felt as regional councils implement new regional water and land plans that seek to achieve freshwater quality targets that will require land owners to minimise contaminant losses from land reaching streams, rivers and aquifers.

Regional councils for Hawke's Bay (Tukituki catchment), Canterbury, Lake Rotorua and Gisborne all require farms to prepare Farm Environment Plans (FEPs) either to remain as a "permitted" activity or as part of a resource consent to farm. FEPs are also proposed for farms in the Waikato and Waipa catchments and Southland.

At the recent Deer Industry Technology Expo at Ashburton, Tami Woods from Environment Canterbury (ECan) outlined the consent requirements and how farmers could check to see if they needed to apply.

Over the past year, Environment Canterbury has been contacting land owners to encourage those who need to apply for a consent to farm to do so. A land use consent to farm is required if the farm is more than five hectares and:

- Is not part of an irrigation scheme with a discharge consent; and
- Current nitrogen losses are:
 - Over 20 kg N/ha/yr in red nutrient zone.
 - Over 20 kg N/ha/yr in orange nutrient zone and property is larger than 50 ha.
 - Over 15 kg N/ha/yr in Hinds; or
 - Over 15 kg N/ha/yr in Selwyn /Te Waihora or are within a Phosphorus or Cultural Area
- There are also other nitrogen loss thresholds for farms in South Coastal Canterbury Streams and Hurunui-Waiiau zones.

Farms with more than 50 hectares of irrigation continue to be Environment Canterbury's top priority to obtain consents. Those who have been on a waitlist for support with their nitrogen budgets, FEP or consent applications are now expected to be able to have their consent lodged by the end of January 2019. Enforcement action will be taken from February for those farms who have failed to do so. Farms in the South Coastal Canterbury Streams area, and farms with less than 50 hectares of irrigation in Selwyn and Hinds, are also being followed up and supported through the process.

DINZ Environmental Stewardship Manager, Lindsay Fung, told deer farmers that DINZ, through P2P, would be supporting deer farmers to adopt good environmental stewardship management practices, as outlined in the recently released industry *Environmental Management Code of Practice*. Support would include resourcing more farmer-led groups based on the P2P



ECan is running programmes targeted to farm types with specific consenting needs.

Advance Party approach as well as the more usual FEP workshop sessions facilitated by an environmental consultant.

By writing an FEP and assessing environmental risk, the farmer is better able to choose the most cost-effective and farm-suitable approach to minimising the risk. Further, while the FEPs are being developed to demonstrate stewardship for freshwater quality, the same plan can be used to cover off other upcoming environmental issues that will impact on all New Zealand farming – native biodiversity and greenhouse gas emissions.

Canterbury farmers wishing to see if they need to apply for a consent can access the DINZ and ECan presentations here: www.deernz.org/dinz-activity/science-environment-policy/environment.

Any deer farmer can get a free copy of the *Environmental Management Code of Practice* on request. It comes in a ring binder which can also be used for the FEP and additional information (e.g. regional council consent documentation, water quality test results). To order your copy of the Code please email info@deernz.org or call 04 473 4500. ■



Waimakariri River, Canterbury. Photo: Greg O'Beirne/Creative Commons

Invermay awarded for tackling sediment loss

by Tim Fulton, *Deer Industry News* contributor

Invermay's farm and research centre in Otago has been rewarded for a "warts and all" approach to sharing environmental knowledge.

THE 579-HECTARE AGRESEARCH farm at Mosgiel near Dunedin won the Otago Ballance Farm Environment Awards (BFEA) Ballance Agri-Nutrients Soil Management and Hill Laboratories Agri-Science Awards.

The farm runs 2,300 sheep and 1,000 deer and has 21km of waterways flowing into the Silverstream River. Sediment management has long been a problem for the property and fences typically run parallel to waterways, while paddocks are subdivided more closely than on a commercial sheep or deer farm.

BFEA judges were impressed by the way farm staff balanced farm production and research.

Farm systems and environment scientist Geoff Asher said the awards recognised the way staff tackled environmental challenges.

"You can't go flagellate yourself; you've got to fix it," he said.

Asher manages about a dozen programmes under the Hitting Targets science funding umbrella. He said some of the farm's environmental challenges started 30–40 years ago when bulldozing blocked up creek heads. Under-running, slips and forestry cuttings clogged waterways and it was a constant job fixing fissures from emerging under-current channels.

On the bright side, eels are appearing in the creeks – a "very good sign" for the health of the habitat.

The restoration work includes mitigation of point source pollution and the improvement on the farm was environmental science in action, he said. "We should have done this 10 years ago, if I'm honest."

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Invermay environment: continued

After initially running a focus farm, AgResearch asked DINZ about participating in a Passion2Profit programme and joining an Environment Advance Party, a peer-to-peer network of like-minded farmers. “It’s about teaching farmers and industry how to identify damage and what are the ways we can mitigate it without breaking the bank,” Asher said.

AgResearch’s land and environment scientist, Jen Robson, drew up an extensive farm environment plan for the farm, creating a founding document for the farm staff. She also invited Otago Regional Council (ORC) and Landcare to visit the property to add their expertise.

The farm rises from 50m flats to 300m, with a wide range of trees for shelter and shade, four ponds and wetland. It also has native areas including manuka plantings and 15 areas fenced off from deer that are set to be planted in natives for biodiversity and hardwood for shade and long-term production. A 0.3ha cabbage tree collection has recently been fenced off.

Farm manager Kevin Knowler said Invermay was aware of hotspots for nutrient loss from winter cropping and the wintering pad, and was looking at economic solutions.

Visual tracking of sediment in the waterway revealed several pollution sources, including one covered in felled trees and branches.

About 40 tonnes of blue pug clay in the waterway had been there for more than 20 years, leaching into the waterway and creating grey water. Invermay asked ORC for permission to clear this waterway, which exposed several springs and the original rock creek bed. The water now ran clean and supplied a small water scheme which was previously blocking up with sediment. Most sediment loss was from winter crops but also from deer wallows in waterways.

Invermay asked ORC for permission to put drainage and draincoil in spring-fed gullies to protect the water from being contaminated by deer. ORC said disturbing soil in the waterway would be non-compliance that could result in prosecution.

The second stage of improvements was more expensive at more than \$100,000, but the work was finished by the second year of the project. They also deer-fenced a further 30 hectares of “safe” deer country, fenced off 15 gully and wet areas and drained parts of the farm with council consent. Staff took down a lot of deer fence to increase paddock size from 1–2 to about 5 hectares, giving the deer more scope and better access to shade and shelter. Fences run across the hill created fence pacing and ruts more than 1.5 metres deep, so some of those barriers were removed.

Over the past four years, staff had worked about 30 hectares into new pasture, most of which had not been touched for more than 40 years.

These days there was a focus on P loss, which was generally associated with sediment loss but could also run over land from fertiliser application. Extensive soil testing showed Olsen P levels ranging from 10 to 45, so a fertiliser programme was put in place to balance this up. The aim was to reduce the high levels to under 30, which not only saves money but reduces environmental risk.

The optimum P level on Invermay’s soil was 20–30

and the farm was aiming for 18–25. More than 90 percent of potential pasture production could be achieved with a P level over 20. Crops were being planted in flat-to-gently sloping paddocks and future cropping could be limited to this gradient for the best environmental and financial result. The farm didn’t cultivate land with slopes of more than 20 degrees and most slopes were under 15 degrees.

The farm now had 16-wire fawn netting on any new boundary fence and rabbit mesh to fawn-proof calving blocks. A calving block is typically 10–15 hectares (two to four paddocks), allowing mobs of 50–70 hinds for a trial requirement. Internal deer fencing was 13-wire “fawn netting” with 115mm spacing for the first seven wires and larger spacing at the top. ■

Deer unit

Invermay grows 10 hectares of fodder beet, 11 hectares of swedes and 3 hectares of kale. It uses an estimated 100 tonnes of dry matter silage, 80 bales of baleage and expected to feed 12 tonnes of barley this winter. The sheep have 2 hectares of fodder beet and 8 hectares of swedes. The management team led by Kevin Knowler and stock managers Brett Hurley and Rachael Worth run 600 breeding hinds and 100 R2 hinds along with stags.

The herd has an AI focus as part of the Tomorrow’s Deer programme and the fawning percentage (of hinds in fawn) is 92 percent. Some weaners are fed crop in winter with 190 mixed-sex red deer being fed ad lib pasture as part of a seasonal growth genetics trial. The females were 76kg and males 87kg on 5 June this year. The stock will continue to be ad lib fed until the end of January, when stags will be killed and hinds will be retained for mating.

Minimising fawn loss was a priority and hinds are pregnancy scanned twice, once in June to get conception date and cull dries (also identify hinds in calf to AI) and again in September before set stocking in October.

“This gives us a clearer picture of the stage of fawn loss [during pregnancy]. We also look at fawn weaning weights off each area so we can try improve the pasture management on areas with lower liveweight gain,” Knowler said. ■



Farm manager Kevin Knowler shows one of the springheads identified by an Otago Regional Council survey. A coilpipe drain will direct the flow to a nearby wetland. Photo: Tim Fulton

East meets west in exciting “New Origin” store

by Ali Spencer, *Deer Industry News* contributor

A brand new and exciting “east meets west” concept store and café is introducing New Zealand velvet to young, upwardly mobile South Korean consumers in Seoul.

THE “NEW ORIGIN” store, owned by Yuhan Pharmaceuticals – Korea’s largest pharmaceutical company – is in the capital’s prestigious IFC Mall.

It is one of the first developments since the 92 year-old, \$1.9 billion (₩1.46 trillion South Korean won) company’s signing of Memorandums of Understanding with Deer Industry New Zealand (DINZ), Alpine Deer and AgResearch last November (*Deer Industry News*, December 2017/January 2018).

DINZ velvet marketing manager Rhys Griffiths visited the store in May.

“It’s a really novel way of bringing east and west together,” he says, adding he was immediately struck with how busy it was.

New Origin’s purpose is to emphasise that good quality food ingredients are not only tasty, but are also good for your health, he explains. The store has two parts: at one end is a western café-style setting, featuring organic and free-range foods; at the other is a



The “New Origin” store recently opened in Seoul’s prestigious shopping centre, the IFC Mall. The building also features the five-star Conrad Seoul Hotel.

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Origin stores: continued

modern apothecary, dispensing eastern-style health foods such as New Zealand deer velvet products, which feature in the café menu and beverages.

Consumers are invited to engage with in-store videos on large TV screens and social media campaigns taking them on a “journey to find the origin of the food”. These star New Zealand deer, farmers and scenery, along with other suppliers of the raw ingredients they are consuming.

“Customers can buy smoothie-type drinks that provide certain health benefits,” Griffiths explains. They then head to the apothecary part where their drink will be paired with the health product they need, which they grind themselves with a mortar and pestle before adding it to the drink.

Just 18 months after it first made contact with DINZ, on the back of its promotional activities in Korea, Yuhan has moved very quickly to bring its new source of New Zealand deer velvet to market. The new concept store opened in April and the TV advertisement quickly went viral. Based on its success, Yuhan intends to open more stores in South Korea.

Exciting and sophisticated innovation

Alpine Deer Managing Director Hugh Signal speaks positively about his business’ new commercial partnership.

“It is a significant show of commitment to New Zealand deer velvet by Yuhan,” says Signal, adding the key for Alpine was that the Korean company wasn’t looking for supply of a commodity.

“They wanted value-add products. We’ve worked alongside them to deliver that, customising smaller volumes of high-quality ingredients to their specific and focused needs.”

The “New Origin” modern apothecary store stocks three products made from Alpine Deer ingredients:

- a concentrated velvet and ginseng syrup for use in drinks and taking by the teaspoon
- a chewable spherical lozenge of herbs and other supplements including velvet
- velvet and ginseng jellies with solid and liquid components that are flavoured and targeted mainly at children.

Signal, who has spent time with Yuhan’s R&D team, is excited by the company’s fresh thinking and innovation and says there are more new products to come. He has also been inspired by the highly educated, considered and practical Korean consumers’ sophisticated approach to value.

“We get really excited when we find customers who can deliver real value for consumers. Anyone who is going to invest in innovation and modernisation of a

traditional product is worth supporting,” he says.

Adding intangible value was also key to taking the Yuhan consumers on a real “consumption experience” to explore the source of their products via the videos and social media.

“The people, animals and environment showcase the biodiversity and integrity of what we produce,” says Signal.

Yuhan has been developing a lot of brand assets, channels and products, says Signal, and has been “very communicative in their process”. He says Alpine intends to spend more time in the market to further develop and understand the channels.

“It was clear they were a very worthy partner and we trust they will do an excellent job.”

Now Alpine has done the work it said it was going to do, next year will see “more of the same”, Signal says. “Alpine will continue to focus on delivering value-add ingredients customised for Yuhan processes.”

Scientific approach

Griffiths agrees Yuhan has had a scientific approach to the whole project. DINZ was particularly heartened to see that Yuhan has commissioned AgResearch to undertake further velvet research in New Zealand.

“We could immediately see it made sense to be working with such a big and respected pharmaceutical company. We saw them as an important channel to the Asian pharmaceutical market and for strengthening the New Zealand velvet position at the premium end of the market.

“The initiative adds to New Zealand’s healthy food story and will give us a boost in that market,” says Griffiths.

The value of New Zealand velvet exports has more than doubled over the past four to five years, which Griffiths says is underpinned by the rapid growth in its use by prominent health food companies in Korea.

To “journey to find the origin of the food”:

www.neworigin.co.kr ■



East meets west in this new concept store.

Southland and Canterbury host 2018 Tech Expos

by Phil Stewart, *Deer Industry News* Editor

The technology expo first held in Gore two years ago made a successful return on 20 June, again in the Gore Town and Country Club and coordinated by Dave Lawrence, with about 60 Otago and Southland deer farmers attending. The P2P programme funded the show with support from the Southland Branch of DFA and lunch sponsored by Alliance Group.

ALTHOUGH THE FOG kept a couple of speakers from the Gore event, a full programme of talks in two streams progressed on such topics as DNA parentage testing, health management and animal recording systems. Attendees also got to ask representatives from OSPRI, DINZ and DeerPRO about the latest requirements.

A second expo was staged on 27 July in Canterbury at the Hotel Ashburton, drawing in an estimated 100–120 deer farmers from the region and 29 exhibitors in the trade stand area. This event was also funded by the Passion2Profit programme, with support from Canterbury West Coast DFA and was coordinated by Lorna Humm. Lunch was sponsored by Silver Fern Farms with attendees encouraged to make a donation to the Rural Support Trust for lunch and exhibitors to donate in lieu of a booth fee.

Both days featured well-patronised trade stands, where exhibitors were quick to take advantage of the free space offered so they could engage one-on-one with interested visitors. Many of the exhibitors also gave presentations so they could explain their technologies or services in greater depth.

At the Ashburton event there were two streams of presentations, with talks well attended. These covered a huge range, from the latest in apps, drones and remote sensing technology to more mundane but just as important and necessary innovations such as high-quality interior wall cladding, the latest in walk-in freezers and low-impact flooring for deer sheds.

Animal health was well catered for, with a standing room-only presentation from vet Dave Lawrence on drench options, while P2P Deer Health Project Manager Lorna Humm went through the

“It was great value, well attended by locals. The presentations all ran on time and I liked the informal way you could walk in and out and talk to individual exhibitors.”

– David Morgan, Raincliff Station

basics of a Deer Health Review. Solis Norton reminded farmers of the excellent free health and productivity monitoring available through DeerPRO while Rory O’Brien updated visitors on activities at Deer Research Laboratories.

Genetics was on show with input from Deer Select Manager Sharon McIntyre and Michael Bates of Genomnz. On the IT front there was plenty to satisfy even the most demanding technology nerd. The decision support capabilities of Farmax were presented as was precision agriculture from Agrioptics; Gallagher and Trutest presented on weighing and recorded data, and OSPRI on NAIT/Tbfree; DJI Fentech Drones showed what an aerial view can provide, and Ultimate Broadband talked about advances in rural broadband.

Nutrition was also to the fore. Fiber Fresh, Agricom and PGG Wrightson made presentations, while Jason Archer talked about the advantages of the Deer Feed app and Simone Hoskin spoke on conserved forages.

The increasingly popular Advantage Feeders were represented in the exhibition area.

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Tech expo: continued



While the Mob Star app “won’t put a cow on the moon”, App project manager Roger Heale of Alexanders reckons it’s an excellent farm management tool. He said the map-based app provides a great overview of the entire farm, helping keep track of what mobs are in what paddocks and what they’re eating. Mob Star is stored in the Cloud so is kept up to date – all devices using it are synced. “You can make changes on your mobile in the field and as soon as you’re in range, it will be updated in the Cloud.” Roger said the app can record paddock and mob history, and could even have a role as a biosecurity tool, tracking stock movements and contacts. “You can also add records such as spraying and fertiliser applications to records for individual paddocks.” <https://bit.ly/2OtbPH3>

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Jemma Mulvihill and Chris Smith of Agri Optics had plenty of technology on show for mapping in detail what’s happening on and below the surface. www.agrioptics.co.nz



Delphine Ducarage, Product and Operations Manager for Onside, explained how their app helps with health and safety management for farmers, visitors and contractors. The mobile app allows you to record visitors and sign them in and out, while showing them where the hazards are, by way of icons on an aerial map/photo of the farm. Delphine said data on people movement on and off a property could also be useful in the event of a biosecurity event. www.onside.co.nz



Stu Stokes (right), who farms at Sheffield in Canterbury, catches up with Environment Canterbury Consents Adviser Tami Woods (left) and Clare McDaniel, Implementation Officer with the council. In her presentation, Tami told farmers Environment Canterbury is able to help farmers work out whether they will need a consent, for example, helping calculate nitrogen losses using the free tool NCheck. Having Overseer and a Farm Environment Plan would equip farmers with the information they needed for a consent application. She said about 2,300 Canterbury farms will eventually need to operate under resource consents. www.canterburywater.farm

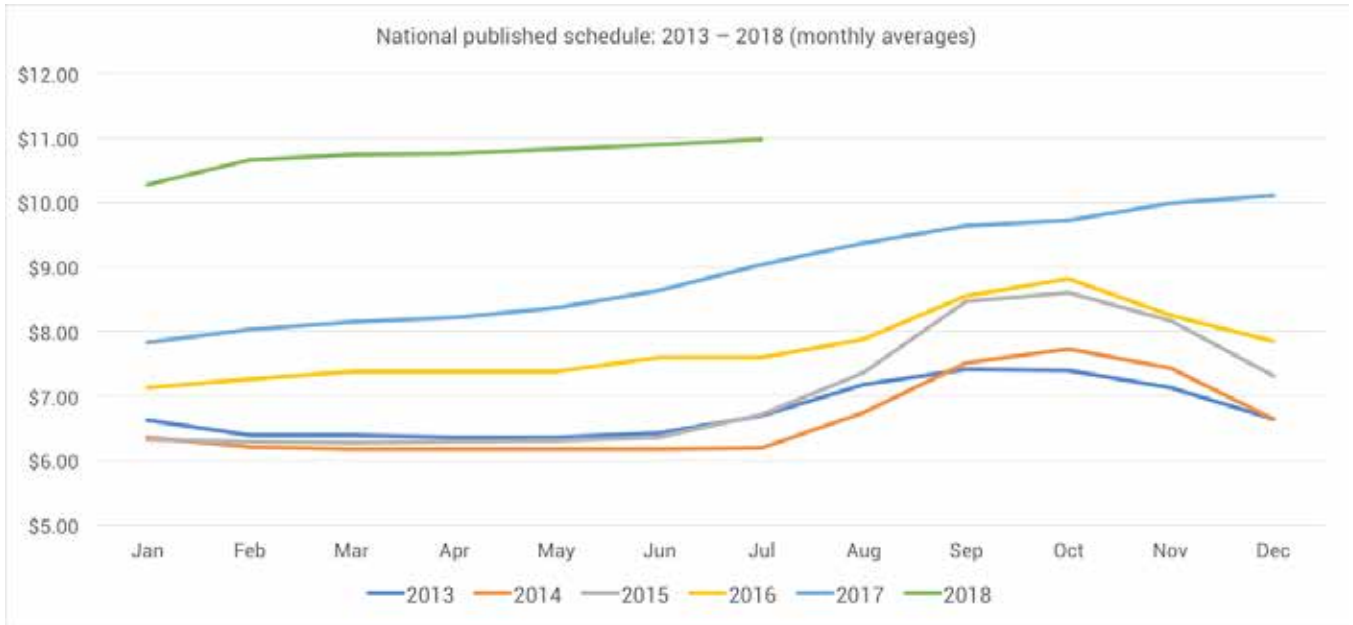


Lorna Humm (left), talks to visitors about the options for getting a Deer Health Review. She said doing a review is an ongoing process. "It's not something you just leave in a drawer." While the reviews can be done in hard copy form, she said going through the process online gives immediate access to pertinent tools such as deer performance worksheets or growth curve charts, along with background information on best practice by way of Deer Facts. "A Deer Health Review gives you a plan that will work for you, on your property," she said. www.deernz.org/deer-health-review

Health and safety was covered by two speakers: Onside's Delphine Ducarage on an app for recording on-farm hazards and visitors, and Gill Pidgeon of Compliance Partners on occupational health. Another mapping app to manage paddocks, mobs and feed was on display from Mob Star's Roger Heale.

And environmental matters were also taken care of, with presentations from DINZ Environmental Stewardship Manager Lindsay Fung, and Environment Canterbury's Tami Woods on what triggers the need for a resource consent to farm in Canterbury's water management zones and what assistance was available for deer farmers. ■

Market update: Venison schedule



Telling our red meat story

by Ali Spencer, *Deer Industry News* contributor

The deer industry's in a good space, believes DINZ Chair Ian Walker, who recently attended the eighth annual Red Meat Sector Conference.

THE CONFERENCE, HELD in the Napier Convention Centre on 29–30 July, attracted about 250 delegates, including farming leaders and top meat processor/exporter executives from throughout the red meat sector.

Strong presentations in an excellent programme prompted discussion around high-level topics also of relevance to the deer industry. There is now clear evidence of cultural change in the beef and sheepmeat sector, but delegates also heard that telling the sector's stories and keeping alert to opportunities and challenges in the current business environment will be key.

Walker found comments from new Primary Sector Council chair and former Zespri chief executive Lain Jager “really interesting in



The panel, facilitated by international business journalist Rod Oram (left), included new Primary Sector Council chair Lain Jager, Seafood NZ communication manager Lesley Hamilton and Beef + Lamb Platinum Ambassador Chef Scott Kennedy.

Pāmu venison conquering Auckland and USA

From The Sugar Club at SkyCity to the Archive Bar and Bistro on Waiheke, premium quality venison from Pāmu in partnership with Duncan Venison and Carve is livening up the plates of over a dozen restaurants in Auckland and further afield, with more queuing up.

DUNCAN VENISON CEO Andy Duncan says the demand for the Pāmu venison is growing as chefs discover the superior taste and quality of the Bistro Fillet product.

“We could see there was a real gap in the market – chefs wanted a more consistent, higher-quality venison item that was available throughout the year, and that is what we have delivered with the Pāmu Bistro Fillets.”

Carve Meat Co-owner, Kate Luxton, Duncan NZ's distribution partner, says they have introduced over a dozen restaurants to the Bistro Fillet.

“Venison is definitely on the rise in the Auckland restaurant scene right now. Word is spreading among chefs in Auckland as they serve our venison to customers, who in turn are looking to find venison on menus. Word of mouth is definitely having an impact on the demand we are seeing.”

Pāmu Chief Executive Steven Carden said it was gratifying to see Pāmu's venison product gaining traction in the local market place.

“We are all about ensuring the quality of our products and farming in a way that enhances the taste of what we sell. With our venison, we have been working on farm to ensure that what ends up on the plate is of the highest quality, and is available when the chefs want it.

“Working with companies like Duncan Venison and Carve, who share our desire to see only the best quality meat in restaurants in New Zealand, is critical to our success.”

Pāmu venison is also on menus throughout the United States in partnership with Duncan Venison.

- Pāmu is the brand name for Landcorp, and is the name given to the products created by the company.
- Article supplied ■





ANZCO and Fonterra director and former DINZ Chair Andy Macfarlane kept up the good work asking MFAT's Vangelis Vitalis a pertinent question about ecommerce. Photo: B+LNZ Ltd.

terms of where the protein demands are from a global perspective and that meat does have a place there”.

Jager's presentation focused on work underway by the Minister of Agriculture's think-tank to develop a new vision for New Zealand Primary Sector Inc. Ruminant protein accounts for 17.8 percent of the world's total food protein supply and only a small amount of that can be presented as premium product, he said. He also discounted the idea that natural protein will be replaced with alternatives. While meat consumption may decline per person, the amount of protein needed will grow, he believes.

In addition, New Zealand's share of just 6.9 percent of internationally traded meat is “tiny”, he said, and points to the opportunities being in the added-value space, rather than the commodity trade.

Big cultural change has been made

Over the past few years, “It is very clear that the red meat sector has made [a] very big cultural change,” observed international business journalist Rod Oram. He was facilitating a three-person panel drawing on their experiences of “Telling Our Story” in the kiwifruit, seafood and foodservice industries.

“From being deeply adversarial, particularly within the supply chain, [the sector has moved towards] understanding how to work together to take these things out to the world.”

In his opinion, the red meat sector already has a good story to tell. It already produces the “BMW of meats”, but BMW knows that it's not good enough to stand still.

“We're going to have to tell a much better story, particularly around emissions and making sure we close all the nutrient loops in our farming systems so we're starting to restore the ecosystem, not just not damage it further,” Oram said.

Telling the red meat sector's stories is really important to take the farmers, processors, consumers and general public along with the sector, not least to avoid a vacuum for other voices to fill, the panel concluded.

Trade clouds on the horizon

Possibly the most powerful, sobering yet hopeful presentation came from Ministry of Foreign Affairs and Trade's Deputy Secretary Trade and Economic Group, Vangelis Vitalis. The previous lead negotiator for the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), among many other trade agreements, outlined the current situation and what lies ahead for red meat sector exports.

The last six months have seen the highest ever number of trade barriers in place at one time, alongside a spike in tariffs, a reappearance of agricultural subsidies and a breakdown in multilateral trade norms. Even so, he still sees a bright future.

“There are clouds on the horizon and things will get more difficult, but you're not alone,” he told delegates.

He noted 53 percent of New Zealand's trade in markets around the globe is already covered by negotiated free trade agreements. When it comes in, CPTPP will lift that to 64 percent and, if the EU–NZ FTA is negotiated successfully, that will mean 72 percent of New Zealand's export markets will be covered, he said.

Productivity Commission head Murray Sherwin told the delegates about planning for New Zealand's transition to a low emissions economy, while growing New Zealanders' incomes and well-being. Agriculture will probably be included in the Emissions Trading Scheme, he said, and new forests will “buy some 30–40 years” but will not be enough. There are likely to be different treatments for the short-lived greenhouse gas methane, which needs to be stabilised in the atmosphere, and the longer-lived gases carbon dioxide and nitrous oxide, which must be reduced.

Striking a chord with Walker is that the deer industry's strategy, including the Passion2Profit Primary Growth Partnership programme with its focus on marketing and on-farm production, is the right one.

“I think the venison industry's in a good space,” he says.

- Further information: www.redmeatsector.co.nz ■



MFAT's Vangelis Vitalis warns of trade clouds on the horizon.

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