

# DEER INDUSTRY NEWS

Issue 55 • August/September 2012 • Official magazine of Deer Industry New Zealand and the NZDFA



## Productivity progress p4

### Also in this issue:

- Performance on the up at Zino brothers' properties
- *Criffel Station* field day
- The beet goes on at South Canterbury Focus Farm
- Venison market news
- Branch Chairman profile: Graham Lawson
- More from CERVETEC 2012
- Managing deer on high country



**DEER INDUSTRY  
NEW ZEALAND**

NZDFA  
New Zealand Deer Farmers' Association





Amanda Bell.

## Deer Industry productivity: Let's maintain momentum

A significant opportunity with high reward awaits the New Zealand deer industry. The only barrier to seizing this is our own mindsets. Our farming businesses have a lot of moving parts – some we can influence and others we cannot. There have been significant discussions in the red meat sector in the past couple of years about potential returns and options to improve. Taking action on these at an individual level is the challenge. How do we achieve best practice across farm productivity, our farming systems and business management?

The deer industry has recognised the need to improve profitability and maximise returns on our investments in research and development and initiated the Productivity Improvement Programme (PIP) to help make this happen.

Over the past year, the PIP group has developed work packages, enablers and practice change initiatives focused on sustainable productivity and profitability. The group was asked to scan all opportunities, both transformational and incremental and to then prioritise these. The programme covers the entire value chain and all products, encompassing research, development and adoption.

At the recent Deer Industry New Zealand Board meeting, the directors endorsed the programme. Support was also given at the 2012 Deer Industry and CERVETEC conferences and it is fully endorsed by the NZDFA.

Technology is one key factor that will take farming returns to the next level, particularly measurement and recording. How can we maximise efficiencies in the capture of data for benchmarking and analysis? We need data to define where

we sit in our production parameters so we can identify where gains can be made and what will give the best returns.

Few farmers relish the job of data capture. In an ideal world I could seamlessly dump data from the scales in the yards into a database accessible to me and my key advisers and processors. The database will have my slaughter production sheets with weights and yields along with other datasets such as genetic data and animal health inputs.

This technology is available but it needs fine tuning at farm level and made easily accessible. It must be kept simple. Key industry players are discussing details and we look forward to an early collaborative decision. The ideal is seamless vertical integration from data collation to analysis and added value back to the farm operation across the red meat sector, including all species and with participation from all processors. That is all part of understanding and maximising profit.

A great deal of data is gathered through a wide range of systems at various points in the life cycle of a farmed deer. Combining this into a centralised resource that can be accessed and mined by farmers, service providers and processors is a critical step towards improved productivity.

Practice change has been recognised as a key issue and as a result the CINTA report (see *Deer Industry News* June/July 2012) was commissioned to better understand attitudes to risk and change.

The industry has a high proportion of innovators and early adopters who collectively farm 39 percent of the national deer herd – but the CINTA report noted that we are not as innovative and open to risk as our history would suggest. Our gains over the past 10 years have been primarily a result of market initiatives rather than productivity improvements behind the farm gate.

So what are the barriers for uptake?

We know from the CINTA research that increased

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

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**Cover:** In this issue we look at ways hinds like these will be yielding greater profits over the next decade. Photo from 2012 deer industry photo award by Tony and Michelle Roberts.

# Productivity Improvement Programme update

■ by Mark O'Connor, Chief Executive, Deer Industry New Zealand

A Productivity Leadership Group led by Dr Mandy Bell (a Wanaka deer farmer and veterinarian and the writer of this issue's *Deer Industry News* editorial) presented a draft programme of work to the Deer Industry New Zealand Board at their Board Meeting in mid-July. This programme is the culmination of efforts by about 40 committed deer industry participants to consider how productivity in the deer industry will be improved. The Board approved the draft programme of work for further development.

Both the need and opportunity for productivity improvement are very real. New Zealand's global position in the market for deer products is strong relative to its competitors. Using its pasture-based systems, farming and processing know-how, scale and market relationships, the New Zealand deer industry is the largest, most efficient, farmed deer industry in the world (market share being an estimated 40 percent of wild and farmed deer products). There are risks, but the industry has a potentially sustainable competitive advantage. However, the same cannot be said for its position as a "land use option" in New Zealand. Perceptions of being a small industry (accounting for only 3 percent of the land used in the pastoral industry) with a reputation for fluctuating returns, the deer industry needs to generate consistent, above-average returns on investment.

Editorial continued from page 3


productivity, increased profitability and improved animal welfare were the biggest incentives for adopting new technology or practices. Farmers noted lack of knowledge, capability and financial constraints as the key barriers to uptake. But should we be looking further than this?

Let's accept that we can develop resources for the requirements identified in the report. Will this help improve uptake? Are our mindsets too entrenched? Do we value the available science and knowledge? Can we see the real benefits? What really will influence the adoption of practices that will create long-term positive gains?

A considerable strength in the industry lies in the thinkers and doers who now are talking and becoming aligned. Sustainable production and profitability require sustained efforts and people with tenacity.

Challenges are part of the process we are in. Let's understand those challenges as they arise and keep moving through and solving them efficiently and effectively.

There is strong support to maintain the momentum and sense of urgency in moving forwards with the programme. The next two years will be challenging but ultimately could be immensely rewarding with the work programme identified and the people focusing on the opportunities leading this charge.

We know we farm an intelligent, productive and rewarding animal in outstanding environments, delivering quality products. There is a significant amount of red meat sector developments and we have a golden opportunity to add environmental sustainability and long term profitability for the deer industry to strengthen deer farming. 

■ Dr Amanda Bell, Chair, Productivity Leadership Group

Table 1 shows that improvement in industry profitability has been from the market, not from improved production efficiency. But, based on what the industry knows, and what has been achieved in other pastoral industries, the deer industry knows there are opportunities to produce deer products more efficiently while meeting market requirements for quality and sustainability.

**Table 1: Where is the opportunity?**

	2002	2012
Venison schedule (\$/kg HCW)	5.61	7.07
Survival to sale (%)	72	72
Carcass weight (kg HCW)	53	56
Ave. kill date (days)	7 Feb	1 Feb
Kg Output/kg hind (kg)	0.362	0.362
EBIT/kg venison*	\$0.32	\$2.34

\*Gain is from market

The Productivity Leadership Group concluded early on that the deer industry's productivity mantra of *More deer, heavier, earlier and better* remains valid. It also concluded that if there was an extra dollar to spend, it would best be mostly spent on achieving practice change in the deer industry rather than generating new knowledge. This was not to downplay the importance of investment in industry research and development, but rather to emphasise the importance of implementing new knowledge and best practice on farm. The goal of productivity improvement is not to produce more. Rather, it is to produce more *profitably*.

## Programme of work summary

The programme of work is based on a review of about 20 project concepts. This is a brief summary of the critical areas.

### Animal health

The single action the deer industry could take to improve productivity is to manage deer to maintain and achieve optimal health. This is best achieved by having an appropriate, individually tailored annually reviewed animal health plan based a risk assessment process including surveillance.

As well as animal health planning, better farmer awareness of the seven main animal health issues affecting the productivity of New Zealand's farmed deer is needed, along with continuing work on problems such as Johnes disease, bovine Tb, parasites and fetal wastage. The seven issues identified are Johnes disease, yersiniosis,

leptospirosis, *Fusobacterium* spp. infection (foot abscess), internal parasites and anthelmintic resistance, copper supplementation/adequacy, and injury/misadventure.

## Feeding

Farmers often farm to the season and accept the fluctuations in production that result from a variable feed supply. Some regular feed deficits are filled, eg a winter crop, but often this variability is regarded as part of farming.

The opportunity to help achieve a 65kg carcass weight by 9–12 months through feeding is to get further ahead of the game by investigating the use of trigger measurements and potential actions early to change the production outcome. Of the many possible triggers, one example to illustrate the idea might be the measurement of body condition score and feed quantity in mid-January to help predict the weaning weight of calves. The idea is to understand early (when action can still be taken) what can be cost effectively done to stay on track to achieve a required growth rate.

## Genetics and physiology

The single biggest opportunity is for breeders to fully use DEERSelect and for their clients to actually purchase stags based on key breeding value traits that match their own breeding objectives.

Other activities include:

- greater use of fetal ageing for more accurate measurement of growth breeding values, better feed management and identification of prolific daughters
- identification and development of breeding values of traits of interest
- continued investment in the Deer Progeny Test.


## Industry targets and “The Prize”

The Productivity Leadership Group has calculated achievable targets and an understanding of “The Prize” based on the successful implementation and reasonable levels and rates of adoption of the programme of work among deer industry participants. These are outlined in Tables 2 and 3.

Table 2: Targets			
Average	Today	+10 yrs	Gain/yr (%)
Survival to sale (%)	72	80	1.05
Carcass weight (kg)	55	64	1.5
Time of kill (days)		-16	0.36
Hind liveweight	110	115	0.45
Feed conversion efficiency	58:1	54:1	0.7
Kg output/hind	38	50	2.8
Kg output/kg hind	0.36	0.44	2
Kg P/kg output	0.2	0.16	2
Income/kg output (\$)	8.57	8.83	0.3
EBIT/kg output (\$)	2.34	3.82	5

Table 3: The Prize	
+ 10 years	
Improve carcass weight	.20 <sup>1</sup>
Reduced hind wastage	.38 <sup>2</sup>
Increased survival to sale	.17
Earlier kill	.43
Improved carcass yield	.07
Velvet, feed use, other	.17
Total	.07
Total	1.48
Impact after 10 years	
• +63 percent profit per annum	
• +\$95 profit per carcass	
<sup>1</sup> Processing efficiency	
<sup>2</sup> Hind efficiency	

## Next steps

The Productivity Leadership Group is discussing this draft programme of work with those who have been involved in the Productivity Improvement Programme to get their feedback. Deer Industry New Zealand is planning the implementation of the work and how best to fund it. Work has already begun on providing more resourcing to DEERSelect and beginning to develop a “deer knowledge base”. 

## PGG Wrightson Deer

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# Steady climb in performance at Zino Focus Farms

■ by Mike Bradstock, *Deer Industry News* writer

Gradual but steady incremental improvement is the name of the game at Sam and Mark Zino's *Kanuka Downs* and *Flaxmere* properties in North Canterbury. Small improvements are having a valuable cumulative impact as the brothers increase their focus on management input at crucial times of year, in particular mid to late lactation, pre-mating, post-weaning and early spring.

The 11kg improvement in yearling mating weight and subsequent 95 percent in-fawn rate is an example of small management changes providing cumulative impacts.

There's still lots of potential to do better in other areas too. Lucerne has helped lift productivity and they're going to grow more of it. In addition, the breeding unit at *Kanuka Downs* is set for further expansion.

Speaking at a Focus Farm field day on 14 June, Sam Zino said an important lesson was that management for early spring should start in autumn – Farmax® software was very useful for this. "Other big lessons are to cut lucerne earlier, feed more grain in spring to address feed shortages, and possibly wean even earlier."

Summarising lessons learned in the first year as a Focus Farm, convenor Wayne Allan said the farm had made a healthy profit with good contributions from all livestock enterprises. This reflected an element of rigour and risk management in the integrated operations of the two properties. "The mixed enterprise is good for cash flow and minimising risk. Deer finishing is consistently the most profitable part of the operation and there is still quite a lot of room for improvement as Sam and Mark work towards their targets."

On a multi-income operation spread across two properties, financial analysis isn't simple: there's breeding and finishing of deer, sheep and beef cattle, dairy heifer grazing and dairy overwintering. The statistics need careful interpretation: for example on paper, wintering dairy cows generates the most

income and profit on a per-hectare basis, but has high costs and when analysed on a kilogram of dry matter (DM) basis, slips behind many of the other enterprises. On this farm, deer finishing produces the highest return at 19c/kgDM profit.

The diversity of the Zinos' operations has many advantages including always having animals that can be put in to clean up whatever the others won't eat. "For example the beef cattle do a great job of cleaning up so that lambing



New silage pit at *Kanuka Downs*, located in a dry, sheltered spot among pine trees on a grassy ridge. Since the field day this has been opened up to the breeding hinds, providing a self-feeding regime through the harshest winter months.

## Key performance indicators

- **Fawning percentage:** MA hinds were down a bit (86 percent, baseline 90 percent) because the lighter animals scanned poorly owing to condition and there was a slightly higher mortality rate among them. Yearlings were up from 70 to 76 percent, which was good. However there's still a way to go given that targets for these groups are 95 and 90 percent respectively.
- **Yearling mating weights** were on target at 95kg, up 11kg from the baseline and previous year's 84kg. This was a very good result, with key drivers better fawn survival and overall animal health (less Johnes' disease and fewer worms, especially on irrigated pasture).
- **Weaning weights** were not significantly affected by earlier weaning (51.5kg at 5 March compared with a baseline of 53kg at 20 March). After weaning, the animals continued to gain about 300g/day, better than would be expected under longer lactation. Weaning earlier also had the benefit of getting the hinds to gain more condition and conceive earlier.
- **Weaning versus winter weights:** Excellent weight gains were recorded between weaning and 1 June. The baseline was 53–64kg and the actual result 51–72kg. The longer-term target increase is a 63kg weaning weight and 75kg at 1 June. The animals entered winter 7.9kg heavier than at the same stage last year. Feeding grain before weaning, good quality cover in autumn and feeding lucerne helped achieve this result.
- **Carcass weights:** The long-term target is to lift the average carcass weight from 53kg, at an average kill date of 10 December, to 60kg by the same date. Last year the kill date was 28 November when carcass weights averaged 54kg. Extrapolated to 10 December they would expect to reach 55.5kg but the decision was made to kill earlier. This year's animals are projected to reach 56kg by 22 November (or around 58kg at 10 December). Sam believes the target weight of 60kg 10 by December should be achievable over time.
- **Fawn losses:** Last season these were 6.4 percent, well below the baseline of 8.5 but still with some way to go to reach the 3 percent target.

goes better in spring,” Mark said. “Our diverse portfolio of options is working well together.” The real trick is then to optimise the productivity through each of these options, Wayne Allan added; close attention to key performance indicators (see box) was an essential part.

At *Kanuka Downs*, pasture growth had dropped to around normal from mid-March but covers were still higher than normal and above target. This will enable a further 50 hinds to be run on the block and there are plans to expand the deer unit with 200 more hinds, bringing the total to around 740. Sam said the breeding unit area would soon be increased from 122 to 170ha by fencing a hill block in mixed ryegrass/plantain pasture before the next breeding season.

A small mob of 35 cows had been on the deer unit since last spring and had done a good job helping to control feed quality. The other 114 cows were to be brought on to the deer unit for a week for a last clean-up prior to being wintered at *Flaxmere*.

Pasture growth at *Flaxmere* was marginally above budget throughout autumn and the higher cover at the end of April, combined with the availability of good supplements, enabled a further 90 mixed-sex fawns to be purchased in May.

### Lucerne performance

A wet summer closed the gap between herd performance on grass versus lucerne. Although all mobs on lucerne



Hinds enjoying lucerne in mid January. (Photo: Wayne Allan)

exceeded targets through March and April, averaging 300g/day, it was not until May that lucerne outperformed pasture for liveweight gains as pasture growth slowed, again thought to be a seasonal effect. There was still a clear advantage on lucerne of 160g/d in fawn growth through mid lactation, declining in late lactation possibly owing to the effects of poor-quality residual feed and cool weather. Hinds on lucerne over lactation were mated earlier and the stocking rate for weaners on lucerne was seven percent higher than on pasture, at two more animals/ha.

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### Environmental enhancement at Kanuka Downs

The Zinos are committed to that old axiom about wanting to pass on the land in better condition than they got it. To this end they're continuing to fence waterways and undertake riparian planting. It's handy that the family has a long gardening tradition and Sam has a degree in landscape architecture from Lincoln University.

The stream running down this small valley will be fenced and planted for protection of the aquatic environment. Another stream running from a spring nearby will also be fenced and planted. This work is being planned in consultation with Environment Canterbury.

Dryland lucerne at *Flaxmere* grew well over autumn and for March and April showed an advantage over irrigated pasture of around 7–8kg DM/ha/day, equivalent to an increased carrying capacity of 3–4 weaners per hectare.

Throughout autumn the fawns were fed grain at 200g/day. Grain can be economical, especially when it advances the kill date. There was some concern that feeding more grain might result in the animals eating less pasture, therefore substituting cheap pasture with the more expensive grain.

### Reproductive performance

This year the hinds were weaned on 5 and 6 March, (11–19 days earlier than last year) to advance conception dates while also improving autumn fawn growth rates. Hinds were scanned early to get some idea of conception dates and fawning spread, which would be useful information at set stocking, enabling the earlier-fawning mobs to be rotated earlier on lucerne. Scanning on 10 May identified hinds that conceived before about 4 April; overall more than half were in calf but there were large differences in conception rate between groups. Two-thirds of the mixed age (MA) hinds had conceived by 4 April. Mobs that had been on lucerne before weaning performed better than those on pasture (71.7 and 58.7 percent in calf respectively). The mean fawning date should be around 20 November, which is significantly earlier than in 2011 (at the 17 November field day last year there were only a couple of fawns on the ground). Interestingly, around 20 percent of the hinds were in calf by 20 March, the previous weaning date.

Home-bred first fawners appeared to perform better, with

nine out of 47 (19 percent) in fawn at 4 April compared with none of the 44 yearlings purchased in mid-February. This may be a genetic difference or it could indicate that the Zinos' pre-mating policy of high stag ratio and early introduction of spikers is helping advance conception date. The bought-in yearlings were also on average 2kg lighter, which may have had an effect.

Hinds that were dry first time round were to be re-scanned. The results have been very pleasing, with an overall figure of 97 percent. The yearlings achieved 95.4 percent, with only four scanned dry. The MA hinds scanned at 99 percent and the second and third fawners 93 percent. Although the double scanning carried an extra cost of around \$500, Sam said the exercise was well worth it.

In discussion of KPI figures it was agreed that another useful statistic would be the yield in kg of meat per hectare at kill. Having six classes of stock on the land, with large variations of feeding and management regimes, tended to confound statistics on income per hectare, but the whole-farm result was a good improvement between 2011 and 2012 from \$975 to \$1,262/ha. Grazing dairy heifers and dairy cows over winter was making an increasing contribution to income – a good result considering these animals also did a lot of cleaning up of inferior feed.

A financial summary showed a good profitable result that would help the Zinos afford forthcoming expenses on environmental enhancement (see sidebar). Finishing is more profitable than breeding.

At *Flaxmere*, all 525 weaners are on fodder beet for the winter, with supplementary balage. 🌱

# Careful analysis and good use of natural advantages at *Criffel Station*

■ by Phil Stewart, *Deer Industry News* Editor

Mandy Bell admitted to some nerves when she and husband (DINZ Board member) Jerry Bell opened the gates of *Criffel Station* to the scrutiny of their veterinarian peers during CERVETEC 2012, the New Zealand Veterinary Association Deer Branch conference. She was the driving force behind the industry response to Johne's disease and is leader of the Productivity Leadership Group currently developing the Productivity Improvement Programme.

*Criffel* has had its share of animal health dramas, recently enduring its fourth Tb outbreak, and also found Johne's disease had infiltrated the herd with some bought-in stock about 10 years ago. This undoubtedly helped motivate Mandy's involvement in the development of Johne's Management Limited and the Johne's Consultancy Network. The Bells are also dealing with a flare-up in foot problems with their weaners at the moment, all issues that you might encounter on any commercial deer farm.

Mandy Bell is not one to sit back and become overwhelmed by such setbacks and, as a veterinarian and farmer, takes a no-nonsense approach to problem solving. In the case of the Tb outbreak they have had "robust" discussions with the Animal Health Board to find out how much resource the board can put into pest control, with *Criffel Station* making up any shortfall to ensure they get right on top of the wildlife vectors. (Unfortunately the rock outcrops and scattered trees that make the station so attractive also provide an ideal environment for possums and ferrets.)

If it can be monitored, it will be. The Bells record and analyse data almost obsessively – not for its own sake, but to build a detailed picture of what their herds and farm environment are doing.

Data recorded includes soil moisture from moisture meters, which transfer the readings wirelessly to the farm computer. "This gives us an objective tool to assess when it's drying out, so the irrigators are utilised very effectively," Mandy explained. The soil moisture data is complemented by Tracmap recording showing the location of the K-line irrigators. "By making sure we filled in all the patches with the K-lines we have been able to improve pasture growth by up to 25 percent in those paddocks."

Also used are Farmax®, DEERSelect, Johne's Management Limited records, a cashbook, various spreadsheets with animal production data and a farm diary with detailed animal health treatment records (important for auditing use of animal remedies). They are already using RFID tags for their elite herd, and will apply the lessons learned to their commercial herd when NAIT tags become mandatory for all deer in 2013. Mandy is looking forward to the time when these various flows of data can be streamlined into one farm recording system.

There are three key areas to a successful business operation at *Criffel Station*, Mandy explained: risk management, planning and people.



Jerry and Mandy Bell: Complementary skill sets.

## Risk management

Jerry's background in the food industry and Mandy's qualification in veterinary science have served them well when it comes to developing risk management programmes. Each year, the Bells pick a couple of areas to pull apart and critically analyse, often with expert advice from outside. For example, fellow deer farmer and veterinarian, Adrian Campbell, has helped evaluate *Criffel's* animal health plan, while Jason Archer, AgResearch Invermay worked with them on the genetics programme for their elite herd. Looking at the foot abscess problem mentioned earlier, the Bells are taking a methodical approach to managing the risk, working from the animals on pasture, through the lanes to the yards. New matting for an area of the yards has been purchased and they are looking out for stony areas where the weaners' tender feet might get damaged, along with sorting out water pooling in the pens. When an outbreak occurs they are proactive with antibiotic treatment due to the inability to detect subclinical infections as they come through the yards. Foot abscess is multifactorial and the Bells' approach is to minimise what factors they can manage to decrease the risk to a level below that at which disease occurs.

## Planning

Following the departure of farm manager, Luke Wright, the Bells realised it was important to document all routine management activities, to ensure continuity as staff changes occurred. Jerry Bell has developed a comprehensive operational manual with key dates



entered through Google Calendar, linked to detailed descriptions and supplementary information where needed.

## People

No amount of risk management and operational planning will be any good without the right people. Mandy said that like many husband and wife teams, she and Jerry complement each other well. Her own restless curiosity and thirst for information is complemented by Jerry's critical eye and desire for a streamlined, uncluttered operation. Jerry's strengths lie in farm development (fencing, water, improved pastures and so on) while Mandy focuses on production and farm systems. Following their manager's departure Jerry has stepped into the farm management role. There are two permanent staff, with contractors used as required. Where needed, the Bells bring in the outside expertise of agronomists, fertiliser advisers, IT experts, geneticists and the like.

## Monitor, monitor, monitor

Mandy Bell is a strong believer in the power of good information and their experience with improving weaner growth rates underlines the point: in just the five years since 2007, *Criffel's* Breeding Values have improved by an impressive 8kg (they now sit at +13kg with the top stags over 20 on the 12 month weight index). Mandy said the improvement could be sheeted home to the stag genetics, and noted that when stags with high BVs were required elsewhere, they could see this reflected in weaner growth figures almost immediately as weights plateaued. It's a lesson she's keen to bring to commercial farmers through the Productivity Improvement Programme's genetics and physiology stream.

Although EID is so far restricted to the elite herd, the Bells have been quick to appreciate its usefulness in monitoring the progress of individual animals, for example, when they're on crop. Any poor doers can be quickly identified and pulled out if necessary.

They're also great fans of regular faecal larval counts and faecal egg counts (FECs). Although FECs are less reliable indicators of actual worm burdens in spring than in autumn, Mandy said they still tell you enough to be a valuable monitoring tool.

## Farm Profile

*Criffel Station* is 2,000ha (1,850 effective), with 1,500ha in hill blocks and 350ha flats and terraces. The land is mainly north facing and altitude ranges from 1,100 feet above sea level up to 4,000 feet.

The station was running sheep, beef "and about 3,000 stock units in rabbits" when Mandy and Jerry Bell took up residence in 1993. Two years later they purchased *Frenchman's Creek*, a property that was already deer fenced.



Deer thrive on the hill blocks, which can carry stock during winter to help spell the flats and terraces.

They did more deer fencing and pasture renewal on that property and in 2001 started deer fencing, regrassing and increasing fertiliser inputs on the flats and hills of *Criffel Station*. The old border dykes, installed by Jerry's father in the 1960s, have been replaced with more efficient K-line irrigation, covering 165ha (315ha is irrigated in total).

The Bells are blessed by a reliable source of water. Jerry said the Pisa range behind the station acts as a giant sponge, discharging the rainwater and snow melt, captured for use in the irrigation system that now serves both ends of the farm.

He said the deer can be kept up on the hills when necessary in winter to spell the terraces and flats.

## Pastures

The flats are 70 percent perennial ryegrass, 10–15 percent winter brassicas, 10 percent annual ryegrass and 10 percent unimproved. Most pastures are laced with plantain, chicory and white clover. Seventy-five hectares of the lower hill country is direct drilled with permanent pasture while a further 600ha is oversown and the remainder is in native grass.

## Crops

In addition to the winter brassicas, swedes, turnips and barley, the Bells have grown a couple of fodder beet crops. Like many who have tried it, they find that when it is good, it is very very good, and when it goes bad it is expensive. Mandy noted that care is needed when feeding young deer on fodder beet, with some straw needed to complement the high sugars available with the crop. She said establishment is crucial and the crop can be compromised if there is no rain and the ground gets too hot.

## Elite deer herd

The elite herd comprises 180 mixed age (MA) hinds, 60 R2 hinds and 210 R1s. Breeding has been done using AI for the past seven years. The elite herd provides stags for the commercial deer operation along with some sales.



Elite weaners at Criffel Station.

## Commercial herd

There are 2,250 commercial hinds including 1,950 MA red deer of which 1,000 go to a wapiti terminal sire. There are 350 R2 red hinds and 70 sire stags. The Bells also run 250 velvetters, buying in R1 and R3 stags each year to lift productivity. Apart from the terminal sire, genetics at Criffel are based around an Eastern European cross.

## Finishing

The Bells take full advantage of the abundant water and productive terraces and flats with a major finishing programme. Depending on the season, around 800 R1 deer are bought in autumn for finishing, to join around 1,625 Criffel-bred R1s. Up to 400 R1 red hinds are retained as replacements. Weaners are run in five mobs based on weights. By mid May this year the commercial weaners were averaging 68kg, while the top elite weaner was an impressive 93kg.

The Bells used to buy in more weaner deer, but taking a hard-nosed approach to returns based on cents per kg dry matter consumed, they are balancing this enterprise with dairy grazers. They also run trading lambs and R2 steers, with the cattle helping provide pasture control.

## Breeding


Red sires for the commercial operation are provided through the elite herd. Spikers are mated with R3 hinds, R2 stags and hinds are matched and R3/R4 stags go to the MA hinds to provide replacements. Mating ratios range from 1:10 with spikers over R2 hinds, up to 1:50 for red MA hinds. There have been good results recently with commercial MA hinds achieving 92–95 percent weaning rates to the stag.

The R2s achieved 78–87 percent, the result of a drier than usual season. The R2s are calved on the lower terraces, while the MA hinds calve on the hill blocks.

## Animal health

After having used pour-ons for years like everyone else, the Bells now use a triple action drench programme (*Cydetin*®/*Scanda*®) to get good parasite control. Mandy noted that strict attention to drench intervals is needed, if farmers are to stay on top of internal parasites.

An active Johne's disease management plan has seen a significant reduction in disease over the past two seasons. As well as *Paralisa*® testing for the R2s (now under review following very low numbers of positives last season) there is a strong focus on managing environmental factors.

Young stock are vaccinated against yersiniosis and trace element status is monitored through *Optigrow*®. Some selenium and copper supplementation is carried out. 

## ATTENTION DEER FARMERS

Stanfields Red Deer Stud seeks to further develop their Elite Velvet and Trophy Herd in conjunction with a like minded commercial farmer(s) who would value a unique opportunity to access Stanfields genetics, by way of a simple J.V. through A.I.

Stanfield also seeks to lease a deer farm up to 300 hectares in the Canterbury region.

If interested in further details please contact **Clive Jermy** on **03 317 9167** or **021 924 317**.





Panoramic view from the south boundary of *Springdale*, facing north.



Lyal Cullen.

## South Canterbury/North Otago Focus Farm field day

■ by Mike Bradstock, *Deer Industry News* writer

Lyal Cullen and Marion Neill have been farming at *Springdale* in South Canterbury's Totara Valley since 1993. The property receives a rather variable rainfall averaging 650mm and is typically summer dry. They started deer farming in 1995 and run the farm without additional labour, so keeping management simple is important.

Stock policies focus on finishing all animals bred on the farm and they have dropped breeding numbers to accommodate this. Deer are now farmed on 160 of the 272 hectares and make up about two-thirds of the total stock units, with the focus on venison production. The remaining land is in sheep and beef.

They have continually regrassed and developed fencing and taken a keen interest in environmental enhancement with tree planting and buffer zones. Conservation and forestry plantings now total 22.5ha. Most of the property is gently sloping but in places thin topsoil over a limestone base is prone to slippage in a wet winter. After a major slumping event a few years ago they planted the disturbed area with Douglas firs and these have consolidated the ground well.

A stream that flows through the farm has also received riverside fencing and planting with Leyland cypress, copper beech and oaks. Lyal said that while some of these trees were comparatively expensive they were well worth it for their aesthetic appeal.

### Fodder beet

This is the third year they have grown fodder beet and they are hoping for improved results. "I was still expecting to get a bit more than last year (27 tonnes per hectare) because the previous spot was drier but it's less at 23 tonnes because it was too wet at planting and the early growth stage. The beet is supplemented with lucerne balage daily to increase the protein content. Animals were put on to it in early June and will stay there until the first week of August, then they will receive a Multimin® drench and go out on to grass."

Stock stay on the fodder beet for 60–70 days. "The crop is

23 tonnes per hectare and there are 480 animals on 6.5ha so they're getting through it reasonably quickly. I had to plant it in late November because it was too wet to plant sooner. Unfortunately it rained immediately after planting and parts of the crop got drowned out in low spots before it could get started."

At a weather-delayed Focus Farm field day on 13 June, coordinator, Nikki Hyslop, remarked that it was important to understand the make up of fodder beet. It is high in metabolisable energy but low in protein. Young growing stock require at least 16 percent protein and adults 12 percent. If you are targeting reasonable winter liveweight gains, fodder beet should only make up 50 percent of the diet with the balance of feed a higher-protein source such as good quality silage or balage (palm kernel extract and barley are also low in protein).

Animals on fodder beet last winter only gained 50g/day so Lyal is hoping they will do 100g/day or better or he will quit the crop. Previously they grew kale but recorded poor growth rates on it. "We have also tried turnips and ryegrass and rape but they only grow about 6 tonnes per hectare. Fodder beet has quantity and quality, but the challenge is to get reasonable growth rates on it."

The winter feed budget closely matches demand but there is also extra silage on hand.

From June to August it is difficult to get red deer to gain significant weight, owing to the influence of day length, so it is important to keep winter liveweight gain targets realistic. Targeting high liveweight gains in the shoulders of the season (autumn and spring) when feed was less expensive and animals will do better was critical.





During a discussion of benchmarks for liveweight gains in weaner deer and recent performance figures for different farms, feeding regimes and stock classes were reflected in large variations of performance. In one exceptional case at *Whiterock Station* a mob of stags grew at 333 g/day, from an average 59.8kg on 25 February to 72.8kg on 4 April. This was achieved on lucerne and prairie grass and 200 g/day of barley supplement. More typical were weight gains around 100g/day under a range of grazing and supplementation regimes. Growth rates were higher in early autumn (March/April) than in April/May. Nikki said these figures would be useful as a starting point for goal-setting, an essential part of the continual effort to improve performance.

Financially the deer are pulling their weight well compared with the sheep and beef cattle. The 2011–12 season was exceptionally good for the whole farm, with earnings before interest and tax up 33 percent. Deer made a 25 percent better return per kg than sheep and cattle.

## Breeding policy

Lyal and Marion run 500 breeding hinds with predominantly Eastern genetics. Of these, about 60 percent go to Eastern sires and 40 percent to terminal sires. Until this year they had used B11 as terminal sires but have now gone back to wapiti to take advantage of hybrid vigour. They also buy in about a hundred weaners a year for finishing.

Every second year, AI is used to bring new Deer Improvement genetics on to the property. Elite hinds are mobbed up in the spring before autumn AI and



Riparian plantings along the stream, with wintering animals on fodder beet in the background.

individually identified. Progeny are also identified and selected replacements are kept. The AI weaner stags are used as spikers over first calvers and then the following year are used as 2-year-old stags over that year's first calvers. Meanwhile the best three or four are kept as sire stags for mixed aged hinds.

This season the scanning percentage has been more than 90 percent in AI hinds, being 73 percent from AI and 18 percent from backup stags. Fawning percentages have risen from 80 percent in 2010 to 83 percent in 2011 and 2012. Losses between scanning and fawning are too high and they are testing for leptospirosis this year. The next challenge is to raise the fawning percentage into the nineties – another part of the “more, heavier, earlier” philosophy that underpins the Focus Farms project.

Autumn growth rates have been good: 190g/day on lucerne, 160 on rape and 226 on grass; weaning weights have correspondingly risen from 54 to 58kg. The projected

## Get your estimates right

Make sure your estimates of fodder DM tonnage are accurate. Coordinator, Nicky Hyslop, said poor sampling methods meant some farmers were discovering their fodder beet crop was much less than they thought, and this could badly upset winter feed budgets.

Steve Bethell of Elders Seed Production, added that assessment by eye or rough sampling could produce crop estimates that were wildly out of line with reality. “I’ve heard stories of up to 49 tonnes per hectare but 25–30 is about as high as it gets. Take at least one sample per hectare and ensure it really is randomly selected.”

With Lyal’s crop, six samples produced values ranging

from 16.4 to 29.7 tonnes per hectare in the same paddock, he said. “Obviously if he had used just one of those samples for feed budgeting purposes, the odds are he’d be miles out. We averaged these figures to arrive at 24.9 which was more like it.

“For feed budgeting determine DM content of leaf and root. With Lyal’s crop we have determined 13.1 percent DM in the bulb and 9.3 percent in leaf. It’s a bit low for young, growing deer, hence the need for supplements.”

For basic information about feed budgeting:

[www.deernz.org.nz/n170.html](http://www.deernz.org.nz/n170.html)



Weaners wintering in a forestry block with access to self-feed silage.

average kill date is 18 November, little changed from previous years.

Lyal lists the advantages of this breeding programme: “We used to be breeding ‘greyhounds’ but have seen big improvements in stag and hind type. We are now tapping into the top genetics in the country every second year to continually upgrade our stags and bloodlines and increase EBV.

“We can also observe all our bred stags for production and temperament from an early age. The result is a great source of well-bred spikers to put over first calvers, though it was slow going at first until the second and third years when spikers and hind progeny came through. It’s also a great way to get maternal sires.

“On the downside, certainly it is a lot of extra shed work, with the animals going through the crush three times in an AI year. You have to have good weighing, EID and recording systems in place, but the results justify it.

“At the same time though we are very aware that venison production remains 80 percent feeding and 20 percent breeding so we have to concentrate just as much on good nutrition. This system wouldn’t work so well in harder country but is fine for down country.”

## Johne’s disease

Johne’s disease has been a big issue in the past and they had to do something about it or get out of deer, Lyal said. They now test all R2 hinds after scanning in July and cull all positives or suspicious cases (including pregnant animals). The Easterns appear to be more susceptible. “It’s costing about \$15 per head plus vet costs and producing good results: we had a large decline from 17 percent to 2 percent testing positive over the six years from 2005 to 2011. Unfortunately there’s been a bit of a spike this year with 9 percent but this is just part of the process.” Testing is not foolproof but it’s an effective tool to assist management and control. Only about once every second year does an animal die that has previously tested negative.

Other presentations were made by Solis Norton of Johne’s Management Limited, continuing to encourage farmers to take advantage of the free Johne’s testing that is available. Dr John Rendel of AgResearch explained the value of stag selection on herd performance and how to use DEERSelect to choose stags. Rusty Andrews from Silver Fern Farms gave a market update and the event finished with a barbecue and refreshments in fine nor’west weather – a striking contrast to the bitter cold and snow of the previous week from which the event had been postponed. 🐾

## Deer farmers leading the way

Deer farmers lead the way in growing and utilising fodder beet and full stands of plantain and lucerne, says Steve Bethell, an agronomist with Elders Seed Production in Timaru. “Farmers are regularly growing at least 25t DM/ha of fodder beets, and often exceeding 30t, compared with 14–16 for kale. For about six years now deer farmers have been showing the way to use beets for very efficient DM production and extending their use into autumn and spring as well as winter.”

However, there were two issues to keep in mind:

- Low protein content necessitates supplementary feeding with something like silage or lucerne balage to help deer maintain condition scores.
- The transition to beets must be carefully managed. While deer cope better than other livestock, the first 10–14 days are critical. Never put animals on fodder beet with empty bellies – feed them well on pasture immediately beforehand and start them on small breaks with plenty of supplement.

Bethell recommends *Brigadier* from Seed Force. They grow one-third in and two-thirds out of the ground, making for good utilisation. Other recommendations included:

- Site preparation should be well in advance, including soil testing and making adjustments to ensure a pH around 6.2 and Olsen P of 22 or better.
- Get expert local advice for weed control. Pasture to be planted in beets needs to be sprayed and ploughed early, say July, to kill off clover, dandelions and yarrow in particular. *Granstar*® can be risky for weed control with beet because of its residual effect; glyphosate at 6–7 litres per hectare, with *Versatill*®, is a better option.
- If a site has previously been in brassicas, look at the history of herbicide use because some chemicals used with brassicas can adversely affect beets up to two years later.
- Follow spraying with either a deep plough or deep ripping with a rotospike to obtain a fine, firm seedbed.
- Sow seed after the soil temperature is regularly at 10–12° at 100 mm (measured at 10am DST), which usually means October to November, so work back from that in preparing the seed bed. (September can be too early as weeds are likely to be more competitive at this time. Later planting in November and December can be four or five tonnes per hectare less than for earlier sowings, so it’s a trade-off.)
- When testing the soil insert the probe to 150 mm because 75 mm isn’t enough to accurately assess the growing environment in which seedlings must become established.
- Normally it takes one pre-emergence then two or three (depending on the weed spectrum) post-emergence sprays at ten-day intervals (*Nortron*®, *Betanal*®, *Pastureclear*®, *Goltix*®, *Lorsban*®).
- If using post-emergence sprays, identify the species of weeds you’re dealing with and use the right spray combination. Early plantings can require up to six sprays, which at a few hundred dollars a time soon start to add up.
- Get expert advice and don’t guess with strategic applications of fertilisers. Carry out herbage tests to determine what the plant actually needs at that time.



# Velvet

## Season edging closer

By the time this issue of *Deer Industry News* reaches print, button drop should be well underway in some areas. With the season edging closer, focus turns towards possible prices obtained by competing countries for this season's velvet. While early reports were promising, exporters have commented that no volumes of velvet had actually been traded yet (at the time of writing). Until volumes of velvet are traded, early indications are meaningless.

There is increased activity by Korean regulators, keen to reduce the alleged illegal importation of velvet from Canada. This could be causing reluctance from buyers to commit to Canadian velvet until the detail is better understood.

## Market promotion

The 16th International Congress of Oriental Medicine (IKOM) is being held in Seoul in mid September. The organising committee includes the Association of Korean Oriental Medicine (AKOM), with which Deer Industry New Zealand has close links. AKOM has asked DINZ to be involved in the conference as they consider New Zealand the major supplier of velvet to their members. DINZ will team up with the Oriental medicine supplier and marketer of New Zealand velvet, *Omniherb* and will have a manned exhibition display.

*Omniherb* is also running its own promotion, positioning New Zealand velvet as a premium and safe product, grown in a cold climate. *Omniherb* is using interactive counter displays to promote New Zealand velvet to patients waiting to see their doctor. In line with providing Oriental Medicine Doctors with quality information, the company has just launched an Oriental medicine publication. Deer Industry New Zealand has taken an opportunity to feature in the magazine, providing regular updates with articles profiling growers and bringing Korean consumers "closer" to the New Zealand producer.

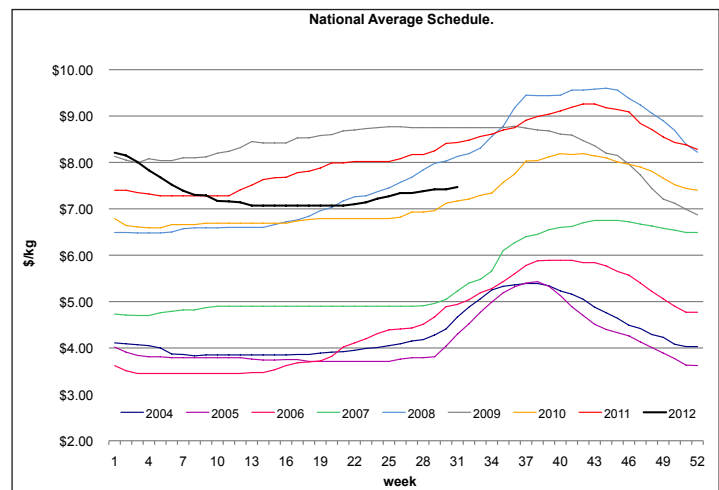


To build on the momentum following the Association of Korean Oriental Medicine's visit to New Zealand last year, Deer Industry New Zealand has placed generic advertising in *AKOM News* – supporting the articles written by the representatives after their visit. This had been strongly recommended by AKOM after they had written their articles to keep the momentum around the New Zealand velvet "story". *AKOM News* is the Oriental Medicine Doctors' main publication, providing weekly news, events and updated industry information. The advertising promotes the quality and professional farming systems along with the cold climate of New Zealand.

# Venison

## Venison schedule

The national average published schedule in the week beginning 26 July was recorded at \$7.47/kg for 55–60kg AP Stags. This was 11% lower than the same week a year earlier, and on the average for the past 5 years. It was 18% above the 10 year average for the week. The schedule troughed at \$7.07 for 9 weeks, which is longer than has been experienced in the past 4 or 5 years, and has risen at a slower rate than the past couple of years.



## Velvet grading guidelines

### Market reacting to trophy genetics influence

Exporters have strongly signalled the potential for downgrading any indentation of premium grades. The market prefers a rounded top and, although an indented stick may technically fit the current SA requirements, there is a chance of being downgraded to OG in some cases. If a producer has an influence of trophy genetics, then exporters suggest cutting early, before onset of indentation. For further information, discuss well in advance with your buyer and read the guidelines accompanying this issue of *Deer Industry News*.

## Board appointments

In accordance with Regulation 16(2) of the Deer Industry New Zealand Regulations 2004, Deer Industry New Zealand publicly gives notice that Mr **Jerry Bell** and Professor **Andrew West** have been re-appointed to the Deer Industry New Zealand Board for a term of three years, which began on 1 July 2012.

## Market commentary

At the time of writing, the exchange rate was 0.665 euro cents to the New Zealand dollar. This time last year it was 0.59 and the 10 year average is 0.51. Convention says that each 1 cent rise cuts 20 cents from the schedule. If this is true, then the 7 cents the euro has fallen against the NZD has taken \$1.40 out of the amount New Zealand companies have available to pay for venison through the spring – unless they have taken currency cover at lower rates.

Marketing managers are currently reporting (in early August) that demand for frozen venison is solid and that early season delivery of chilled venison is progressing



satisfactorily. European customers report that orders for later in the year remain under discussion as their customers delay ordering until they have a better understanding of sales levels and likely demand.

Venison has avoided the worst of the European malaise so far, but recession fatigue is beginning to affect the prosperous Northern European markets the New Zealand venison industry relies upon. Business and consumer confidence is falling as export orders drop and the risk of contagion from Southern European economies grows.

Wholesalers, who order from importers and sell to restaurants and retail outlets, are likely to try and order more product “just-in-time” due to the uncertain level of restaurant dining in the year ahead. This places products like New Zealand venison at a disadvantage as the lead time is so much greater – therefore increasing the risk wholesalers have to take.

## Venison production

In the 12 months to May 413,074 deer were slaughtered, 1.4% up on 2010/11. Deer slaughtered in the 8 months since the beginning of the season are recorded at 320,208, 0.4% down on the previous year.

Venison production for the 12 months to May is 23,188 tonnes, 3% up on the same period a year earlier.

Slaughter statistics by month (deer numbers)							
	2006/7	2007/8	2008/9	2009/10	2010/11	2011/12	% Change from 10/11
Year End Sep	608,518	603,957	490,151	384,701	414,512		7.7%*
12mths to May	683,243	632,245	519,545	396,033	407,408	413,074	1.4%
Oct–May	453,742	477,469	393,057	298,939	321,646	320,208	-0.4%

\*% change from 2009/10

Production statistics by month (tonnes)							
	2006/07	2007/08	2008/9	2009/10	2010/11	2011/12	% Change from 10/11
Year End Sep	32,893	32,318	27,290	21,339	22,920		7.4%*
12mths May	36,813	33,751	28,717	21,922	22,516	23,188	3.0%
Oct–May	24,880	25,738	22,137	16,769	17,946	18,215	1.5%

\*% change from 2009/10

Total venison production is up 1.5% for the season since October as average carcass weights have been almost 1kg higher than the year earlier. For the season to date, average carcass weight is 56.3kg, the highest recorded since the substantial reduction on the velvetting herd in the late 1990s.

Hind slaughter continues to run ahead of the natural replacement rate at 49.1% for the previous 12 months. The Executive has suggested that 48% indicates herd maintenance. Some 6,452 more hinds have been killed this year than last; 786 fewer stags have been killed year on year.

## Deer industry exports

Total industry exports for the 12 months to May are down 2% in value. Venison and leather exports have dropped in volume and value, while recorded exports of velvet, co-products and hides are up in volume and value.

New Zealand deer industry exports: 12 months to end of May						
	Volume			FOB value (NZ \$mill)		
	2010/11	2011/12	% change	2010/11	2011/12	% change
Venison (tonnes)	15,853	15,249	-4%	\$216.2	\$207.5	-4%
Velvet (tonnes)	178	218	23%	\$30.3	\$31.2	3%
Co-products (tonnes)	3,873	3,984	3%	\$15.4	\$18.5	21%
Lthr (sq. mt: 000)	334	259	-23%	\$21.2	\$17.9	-16%
Hides (000)	149	176	18%	\$3.6	\$4.9	35%
Total				\$286.7	\$280.1	-2%

Source: Statistics New Zealand

## Venison promotion

### Ambassador Chefs

An important component of positioning New Zealand venison as a premium meat is ensuring that top-level chefs are seen using it. DINZ has arranged for eight German chefs we will work with to promote New Zealand venison on an ongoing basis. They are a mix of established industry figures, Michelin-starred chefs and emerging talents.

- **Bos Food:** Ralf Bos/Meerbusch (Trained chef and one of Germany's most influential food wholesalers and BBQ specialist – the BBQ section of the cookbook)
- **Ristorante Carmelo Greco:** Carmelo Greco/Frankfurt (one star chef – the Mediterranean section of the cookbook)
- **Restaurant Die Bank:** Thomas Fischer/Hamburg (lifestyle chef – the modern classic section of the cookbook)
- **Restaurant Huber:** Michael Huber/Munich (the Neo-German section of the cookbook)
- **Restaurant Roomers:** Jörg Ludwig/Frankfurt (international section of the cookbook)
- **Restaurant Victorian:** Volker Drkosch/Düsseldorf (one star chef – the modern section of the cookbook)
- **Restaurant Volt:** Matthias Gleiß/Berlin (Michelin Bib Gourmand – the lifestyle section of the cookbook)
- **Restaurant Zenzakan:** Sebastian Roisch/Frankfurt (voted best foreign restaurant of the year by Busche publishing house – the Asian section of the cookbook)

Their first task has been to design recipes using venison. These will be used in a New Zealand venison cookbook currently being written, to be published in time for the Frankfurt Book Fair in October.

### Benelux

Representatives for New Zealand venison met with the Jeunes Restaurateurs D'Europe (Young Restaurateurs of Europe, JRE) Holland and JRE Europe in early June and agreed on the inclusion of New Zealand venison in JRE Holland events for the year ahead. The JRE is a grouping of chefs under 40 years of age who run well-regarded, independent restaurants. They invite suppliers of quality ingredients to present their products to their members and then include these ingredients in education activities and culinary events. DINZ is co-orientating the supply of chilled venison and information material for professional chefs' workshops and producing recipe booklets in conjunction with members of the Dutch, Belgian and French organisations in the coming year. The first Dutch event was held on 25 June.



Todd Gray at work with Cervena at the Food Arts BBQ.

### United States: Food Arts BBQ

Cervena venison was a participant at the *Food Arts BBQ* in Chicago in May coinciding with the National Restaurant Association trade show. Original Cervena® ambassador chef, Todd Gray, flew over from Washington and cooked Cervena on a stand at the evening event attended by around 200 of Chicago's culinary leaders.

### Rising Stars Atlanta

Cervena was served at three events over 13 and 14 June at the Atlanta Rising Stars event. Chefs served creative Cervena dishes at the public gala attended by around 300, the Honorees dinner attended by 100 and the awards after party. This event was supported by an importer and their local distributor who attended the events, reporting that the Cervena dishes were well presented and very well received.

### New Zealand House and the London Olympics

Chef Peter Gordon approached DINZ to obtain support for including venison on menus for events leading up to the London Olympics. DINZ ensured venison was supplied for the Governor General's Ball and assisted supply for the Kiwi House BBQ. (Hopefully Kiwi visitors got to sample as much venison as possible before a fire destroyed the BBQ area on 8 August.)

### Sophie Wright videos

Sophie Wright is a young British chef and food writer who writes for the *Daily Mail*. She visited New Zealand in 2008 after winning a chefs' competition with New Zealand venison and since then has assisted us with venison presentations to schools and at food service trade fairs. We recently asked her for a collection of recipes, with videos, these are now posted to NZVenison.com and also on YouTube: <http://nzvenison.com/sophiesvenisonpie>

### Other activities

- DINZ, along with Beef + Lamb NZ Ltd, hosted a New Zealand stand at the annual *Kieler Woche* (Kiel Week) summer festival. The main focus of the 10-day festival in the Northern German port town of Kiel is Europe's



The combined DINZ/Beef + Lamb stand at Kieler Woche was popular with visitors.

largest sailing regatta. But around 3 million people visit Kiel over 10 days in June and numerous other events and activities are provided for their entertainment. One component of *Kieler Woche* is an international food and drink festival. New Zealand Venison and Lamb were sold from a stand run by DINZ and Beef + Lamb NZ Ltd. The food was very well received, attaining the highest rating from the event organisers. We estimate the stand sold between 500 and 1,000 meals per day.

- A **Pure New Zealand Cuisine** demonstration was provided to 25 students at the Regensburg culinary school on 25 June.
- Citti BBQ** – DINZ supported a retailing company promoting venison at a summer BBQ event and produced a venison BBQ booklet and promotional banners for the company to use at BBQ festivals held at its four hypermarkets in early June.

Chefs at the booth cooked low-fat venison leg steaks, with excellent flavour. ... The meat is characterised by a mild flavour and tastes great with a little salt when cooked rare.



Advertising material for the BBQ week prominently featured New Zealand venison.



## NZDFA BRANCH CHAIRMAN PROFILE:

# Graham Lawson – Waipa

■ by Derek Johnson, *Deer Industry News* writer

Seeing the fruits of decades of genetics is why this farmer's in the game. Graham Lawson, Chairman of the Waipa branch of the NZDFA, always wanted to go farming and within a few months of leaving school at 15, that's just what he was doing.

A few years later, during the 1970s and 1980s, Graham was hunting and possum trapping around Lake Waikaremoana. After that, he spent a couple of seasons catching live deer.

Graham started by keeping a few deer and then made the logical step. "I bought and deer-fenced a small property in Hawke's Bay. I didn't get too far with wild deer so I bought in some better bloodlines and grew from there."

### Working in Waikato

He's now based midway between Te Awamutu and Otorohanga, on 360 acres bought in 1999. Graham has around 240 mixed-age hinds, 80 yearling hinds, 200 stags and 190 fawns, plus a few dozen cattle and 100 breeding ewes, 50 fallow deer and 40 Arapawa sheep.

The property has natural water in the paddocks, with troughs closer to the house. The silage is sufficient in good years, but "during the 2007/2008 drought, I spent a hell of a lot of money buying in silage. I'd normally produce 300-400 bales; that year, I did 53."

### Trophy trade

Graham focuses on the trophy market, with a significant sideline in velvet. "They have to pay their way before they get to a decent trophy size, at seven years. I hold everything through till two years old, evaluate them and then sell off the middle cut. The bottom ends just go to the works."

Trophies go all over the North Island and Colin Stevenson buys the velvet.

Single-sire mating is at the heart of Graham's programme; he keeps track of who's from whom and whether crosses have produced good results. "I buy stags every year but I don't use them all as sires. Some I buy for a punt to see what they're going to do. But every second year, I'll usually buy a top sire." His stock is mainly Warnham/Woburn, and "a touch of Eastern".

### Taking the chair

Last year, Graham became chairman of the Waipa branch of the NZDFA, after five years as secretary. Also this past year, Graham fulfilled an opportunity to run (with his wife, Shelley) the Rising Stars national hard antler and velvet competition, hosted by the Waipa branch in February. "We took over from Joe Crowley. He had a very good team that did all the behind the scenes stuff – collecting heads and velvet, managing the freezers and handling the paperwork. They were happy to carry on with us, which made life just so easy."

At 90 heads entered, the event was a dozen up on the previous year. "It went extremely well and we've had very

good feedback."

Graham would also like to see a change in velvet competition entries. "I feel that the weight of some heads coming through blows out the quality. I'd like quality, rather than just weight, to be reflected in competition. And that is starting to take place."



Graham Lawson: Enjoyed challenge of taking over Rising Stars competition.

### A very social branch

At just 14 members, the branch, which stretches from Te Awamutu to Taumarunui, is small. There are a few local deer farmers who aren't members, but that's not a problem with Graham. "We prefer entrants to our velvet competitions to be members, but if they're not, that's fine. It encourages them to see what we're doing, get to know us, and perhaps join."

Members are making an effort to attend Focus Farm field days. "They're really well-organised events. We have some issues with the Waikato Regional Council over water – fencing off streams and so on – and Bala Tikki setty comes to the open days to discuss developments."


The branch's area has been under Tb movement control but recent developments have been positive: "Many farms – including my own – were in a buffer zone because we're close to the Rangitotos. That's all been lifted; there's been no Tb in the area for 15 or 20 years."

Graham also mentions NAIT, a big concern for members. "But being chairman has opened my eyes to what the national body does on our behalf. NAIT would be one hell of a lot different if the national body hadn't done so much work."

### One man band

As is the case with many deer farmers, Graham works alone. Shelley helps with paperwork and the computer and in the absence of hired help; she also assists on the farm. For example, on the day of this interview, "she gave me a hand holding posts while I was fencing".

But Graham likes to work the deer by himself. "It's quicker, and I know the deer and how they are going to react. They act differently if there's someone else around."

"If I wasn't growing out trophies, I probably wouldn't be deer farming. I wouldn't farm solely for meat. The highlight of the year is velvetting and seeing the trophies going out in January. I get a lot of satisfaction from seeing the results of all the work that's gone into the genetics." 



## Deer farmers are next – be NAIT-ready for 1 March 2013

Deer farmers preparing for the NAIT scheme starting for deer on 1 March next year can have confidence in the scheme based on July's successful start for cattle, says NAIT Ltd Chief Executive, Russell Burnard.



“We are pleased with registration numbers (approximately 45,000 – 50,000 when going to print) for cattle farmers. The scheme's commencement has been smooth because farmers took heed of our advice to be ready from day one.

“I'm hopeful for a great start for deer because feedback tells us deer farmers are on the ball and their level of NAIT scheme knowledge is very high, as is their desire to participate,” Burnard said.

Deer born after 1 March are automatically part of the NAIT scheme and must be tagged within 180 days of birth or before moving off-farm, whichever is sooner.

NAIT Ltd is working with the Animal Health Board (AHB)

on transitional tagging rules to enable deer farmers to use a NAIT tag only for stock going to slaughter, similar to the AHB's transitional tagging rules for cattle.

Deer farmers must also:

- register with NAIT to get a NAIT number
- identify property where they are in charge of deer
- register the animals with NAIT
- report to NAIT when deer move off or on-farm
- report deaths, losses or live exports.

There is a three-year transition for capital stock to be NAIT-tagged unless they are being moved off-farm. This grace period is until 1 March 2016 for deer (and 1 July 2015 for cattle) and farmers have to undertake to give NAIT Ltd annual audits of their non-NAIT-tagged stock.

### NAIT Regulations up for discussion

New proposed regulations governing the National Identification and Tracing (NAIT) scheme are provided in a Ministry for Primary Industries (MPI) discussion paper that went out for public consultation on 8 August.

The proposed regulations are for infringement offences and for establishing a panel to consider applications for access to the NAIT information system.

They form part of the suite of regulations for implementing and supporting the NAIT scheme.

The regulations passed to date provide the detail on how to meet requirements of the NAIT Act. They cover obligations and exemptions, levy types and various fees and forms.

The discussion paper sets out 12 proposed infringement offences. MPI director of preparedness and partnership, David Hayes, says the offences provide an efficient way of encouraging compliance.

“The NAIT scheme has a strong focus on education, assistance and direction. That approach will be effective for the great majority of people. The proposed regulations for infringement offences give the scheme another way to enhance compliance,” Hayes says.

The discussion paper also sets out six proposed regulations for establishing the access panel that will consider applications to access data held in the NAIT information system.

“The rationale for the panel is that some applications for access to NAIT data may be quite complex in terms of judging and balancing the ‘industry good’ benefit of the application against privacy rights,” Hayes says.

The panel would be appointed and publicly notified and made up of three to four people with specialist knowledge and experience in the pastoral sector and/or privacy law.

Submissions must be received by 5pm on Wednesday 5 September 2012.

The discussion paper incorporating the proposals includes details for how to make a submission and is available at:

■ [www.mpi.govt.nz/Default.aspx?TabId=126&id=1449](http://www.mpi.govt.nz/Default.aspx?TabId=126&id=1449)

### NAIT scheme registration and getting a NAIT number

Registration is open so you can be ready to go from day one. Register online at [www.nait.co.nz](http://www.nait.co.nz), or use a NAIT-accredited information provider to complete your registration for you. If you need help registering yourself call NAIT on 0800 624 843.

When you register you must supply some personal information and details about your farm(s). Make sure you select the option to get a NAIT number as you'll need it as soon as the scheme starts if moving stock.

NAIT Ltd recommends you provide your NAIT number to any meat processors or saleyard operators you use. If they are NAIT-accredited, having your NAIT number will enable them to record movements in the NAIT IT System for you when sending them animals.

Have your Animal Health Board herd number handy when you register too. Doing so will mean you can electronically view the tag numbers associated with your NAIT number in the NAIT IT System. This will make it easier to register animals and to record deer movements from 1 March 2013.

### NAIT number tips for people responsible for deer and cattle

There is a choice: Both cattle and deer on one property can be assigned one NAIT number or they can have separate NAIT numbers.

If there is a different Tb status between deer and beef herds, putting both species under the same NAIT number will lower all the animals to the lowest status (ie, highest risk level).

If you have farms more widely separated than 20km, you need a NAIT number for each property anyway.

However, if you have two farms located within a 20km separation, a single NAIT number can cover both. If you have one NAIT number you won't have to record movements between properties.

## Tagging exemptions for deer

NAIT Ltd recognises some capital stock are impractical or dangerous to tag so there is a three-year impractical-to-tag exemption for both deer and cattle if they are going to direct to slaughter tagged with an official AHB barcoded tag.

This levy applies until 1 March 2016 for deer (and 1 July 2015 for cattle). It is for the farmer to determine it is impractical to tag.

Deer and cattle farmers sending impractical-to-tag animals to slaughter will be charged a levy of \$13 per head excluding GST for the rest of the 2012/2013 financial year. The levy increases to \$16.75 and \$21.50 respectively the following two financial years.

For deer farmers, the overall additional cost of not tagging an animal when deer join the scheme on 1 March next year is around \$8 (ie, \$13 less the costs of the tag purchase) excluding GST.

**Tags on trophy stags may be removed** with NAIT Ltd's written permission if sent to a game park, either by the game park operator or on the origin farm if safer. NAIT Ltd must be informed if a tag is removed, and of the animal's location change.

### An exemption for tagging fallow deer can be sought.

Fallow deer farmers must apply to NAIT for written permission to use this exemption. NAIT Ltd accepts that tag retention for young fallow deer, in particular, is a recognised management issue and there is no alternative approved technology for RFID at this point. When moving fallow deer the person in charge of animals must complete an ASD/Tb form, but is exempt from completing a movement declaration with NAIT. For further information on tagging exemptions, go to [www.nait.co.nz](http://www.nait.co.nz). An annual stock-take of fallow deer must be provided to NAIT.

## NAIT tagging for deer

NAIT-approved ear tags for deer have an **orange "female" portion**. The male portion can be any colour but white. Some deer were tagged with white NAIT-approved RFID tags for cattle before the orange tags for deer became available at the beginning of this year. These animals can be moved without being retagged. 📷

Further information

- Check the NAIT website at [www.nait.co.nz](http://www.nait.co.nz), email us at [info@nait.co.nz](mailto:info@nait.co.nz) or call the NAIT contact centre on 0800 624 843.
- Article supplied by NAIT Ltd

### Work placement wanted

Lincoln student studying for an Agricultural Commerce Degree seeks summer employment on mixed species livestock property, including deer.

An integral aspect of this degree is to undertake 15 weeks of practical work over the summer break, which also involves writing a full report on the property at the completion of the job.

I have been brought up on a deer finishing, sheep breeding/finishing and dairy support property near Feilding and have experience in all aspects of pastoral farming and, of course, I'm keen to learn more.

I am very keen to make contact with any progressive deer, sheep and cattle farmers who may be considering employing extra staff this summer.

Please contact Julius Cousins: [juliusc@hotmail.co.nz](mailto:juliusc@hotmail.co.nz), 027 786 4231

## VIAscan extended to venison

Alliance Group is to extend its innovative VIAscan technology to venison. VIAscan, installed throughout eight Alliance Group plants, measures the meat, less the fat and bone, to capture yield performance data.

While VIAscan had been available for analysing sheepmeat since 2003, venison suppliers sending stock to the company's Makarewa plant in Southland will soon benefit from the same technology.

Along with providing suppliers with the opportunity to improve returns, VIAscan also aligns farmers with current market information and helps them with decision-making and the selection of good genetics.

Murray Behrent, general manager of livestock at Alliance Group, said extending VIAscan to venison illustrated the company's commitment to innovation.

"Exceptional product quality and food safety standards are vital for Alliance Group's export markets. We're targeting high-end consumers with discerning palates who rate meat quality highly when making purchasing decisions; VIAscan helps our suppliers produce the quality livestock that is required."

The technology takes an image of the whole carcass and uses complex algorithms to compare the shape and colour profile of the carcass with a large database of boning trial results. It then divides the carcass into three primal areas – leg, middle and shoulder – and reports a meat yield result for each.

"Alliance Group has identified an ideal market weight range and yield for each area of the carcass. Kill sheets will provide a profile showing how each herd performs against these ideal market requirements," Behrent said.

VIAscan will also mean suppliers can measure the performance of each individual carcass, particularly when the National Animal Identification and Tracing scheme (NAIT) is introduced for deer in March 2013.

"Alliance Group has invested in technologies and research to ensure our brands represent quality and safety to consumers. These investments include the Farm Assurance Programme, the Enviro-Mark and ISO 14001 programme, ongoing involvement in the Central Progeny Test and, more recently, the Deer Progeny Test." 📷



VIAscan technology will give valuable feedback on carcass yields for individual animals.



## Peel Forest Estate buys Windermere stud

South Canterbury stud, *Peel Forest Estate*, has purchased the award-winning *Windermere* Red Deer Stud near Hamilton. The purchase includes the pure Warnham and Warnham-Woburn breeding herd along with selected sires, semen, embryos and the *Windermere* name.

*Windermere* stud specialised in superior velvet genetics for nearly 25 years, aiming to provide outstanding sires to the deer industry with a high degree of consistency and reliability.

“Our primary focus was always to strive for the best velvet antler structure suited to the commercial velvet industry. We have found our pure Warnham Park bloodlines undoubtedly the most reliable in achieving this,” says former owner of *Windermere*, John Kempthorne.

In recent years, the *Windermere* stud's status has been emphasised through an extensive list of awards from the National Velvet and North Island Velvet competitions. At the 2011 National Velvet Competition the two heaviest red heads were awarded to *Windermere* stags, along with the winner of the prestigious three-year class.

*Windermere* has maintained specialist velvet lines without mixing with trophy genetics. Kempthorne says the challenge when looking to sell the stud was to ensure it found a suitable home where these bloodlines could continue to be advanced and remain available to farmers.

“We have always resisted the temptation to mix our lines and genetics and we wanted to ensure this continued. We are happy that the stud is going to *Peel Forest Estate* because they are an extremely well managed and professional operation and the *Windermere* velvet genetics will complement their other strengths,” Kempthorne says.

*Peel Forest Estate* owner, Graham Carr, is thrilled with the purchase and is planning to maintain and advance the *Windermere* herd.

“This is an important strategic acquisition for *Peel Forest Estate*. It is also important for the industry that the *Windermere* Warnham stud has been kept in its entirety. This will enable the industry to continue to benefit from John's passion and hard work over the years in developing these top-class genetics.

“Now that 70 percent of farmed deer are in the South Island,



John Kempthorne with hinds from the *Windermere* herd.



Visitors to *Peel Forest's* open day in October will be able to view progress two years on from this view, taken in 2010 for the Deer Industry Environmental Awards

this acquisition also brings the stud closer to the main body of the industry. From a purely commercial point of view, for us at *Peel Forest Estate* where we harvest more than 2,000 velvet stags, it will give our velvetting herd a huge boost,” Carr says.

*Windermere* Stud will be selling two-year-old sire stags from the residual young stock by private treaty for the next two seasons; thereafter *Peel Forest Estate* will be the primary source of *Windermere* genetics.

“It has been an immense pleasure breeding this herd and we look forward to following its future development at *Peel Forest Estate* with Steve Blanchard and Graham Carr,” Kempthorne says. 📍

Walton, one of *Windermere's* star sires, cut 12.5kg velvet at six years of age.



### Open Day at Peel Forest: 25 October

Mark your diaries for an open day to be held at *Peel Forest Estate* on 25 October. The event will feature environmental work (*Peel Forest Estate* won the Firstlight Foods Ltd Award for Total Commitment to Sustainability: environmental, farm and social and innovation, in the 2010 Deer Industry Environmental Awards). Also on show will be *Peel Forest's* newly commissioned deer shed and handling facilities and visitors will also get a chance to look at the *Windermere* herd in its new home.

Details of timing are to be confirmed, but watch out for your next Stagline-online e-Newsletter (DFA members only) for details or contact Graham Carr: 03 696-3859, [grahamcarr@xtra.co.nz](mailto:grahamcarr@xtra.co.nz)



## CERVETEC 2012: Deer veterinarians' conference

In the following delayed coverage from the New Zealand Veterinary Association Deer Branch conference held in Queenstown from 29–31 May, *Deer Industry News* Editor, **Phil Stewart**, reports on discussions including hardy perennials like parasite control and what it takes to persuade farmers to adopt productivity-enhancing practices.

### Productivity Improvement Programme

Deer vets were given a full rundown on progress with the Productivity Improvement Programme (PIP), with leaders of all theme groups in attendance (see *Deer Industry News*, June 2012, page 7 for coverage of the theme groups' work).

**Peter Aitken**, who heads to Freedom to Operate theme group spoke to vets about animal health planning – a process that lies at the heart of the vet–farmer relationship. He said when the relationship is reactive rather than proactive, with the vet only called when there was a problem, there was a lost opportunity.

Aitken challenged vets to consider how many of their farm clients even had an animal health plan. Fertiliser and agronomy requirements are always planned well ahead, so why not animal health, he asked. (The PIP Productivity Leadership Group estimates that about 12 percent of deer farmers use a tailored, annually reviewed animal health plan now – the target is to lift this figure to 80 percent within 10 years.)

While farm staff turnover and the traditional mindset of some deer farmers could be barriers to getting a good animal health plan running, Aitken said deer vets needed to be ready with the right knowledge and skills to provide a sound plan that could be reviewed annually. For the plan to be effective, farmers needed to understand the recommendations and be prepared to adapt if circumstances changed.

Aitken said farms may have a fixed animal health budget. Some of this is spent on animal health products and some on advice. He said that when vets and farmers have a more proactive relationship, the proportion of the budget spent on advice may increase.

Noting the findings of the CINTA report that vets were the

most important influencers of change, Aitken said deer veterinarians were in a powerful position to be agents of change.

DINZ CEO, **Mark O'Connor**, acknowledged that wheels will inevitably be reinvented as the PIP is implemented, noting that work at Invermay more than 30 years ago highlighted similar issues – good nutrition and genetics for example. He said the drive for increased profitability will fail if the emphasis is solely on cutting costs.

He said the institution-driven agricultural “extension” model from the 1960s and 70s had a narrow target and gave way to “technology transfer” in the 1980s and 90s. This was a more transactional approach and generated better awareness among farmers, but didn't always lead to positive change. The “practice change” model that has taken over since 2000 is more focused on farmer motivations and attitudes to change and risk.

The PIP would go through a strategic stage, which included getting to know our own industry better, before implementing project concepts. O'Connor said there were three main pillars supporting practice change:

- motivation – profit is important but people are also driven by desire for respect, simplicity, prestige or good stewardship.
- confidence – self belief and confidence in peers, advisers and the information received
- ability – having the right skills, knowledge, resources, family and physical circumstances to put change into effect.

DINZ Science and Policy Adviser, **Catharine Byrne**, explained that the principles around uptake of new technologies and methods identified half a century ago in the United States by Everett M Rogers still held true today. She said the CINTA survey (see *Deer Industry News*, June 2012, page 8, 23) categorised farmers as innovators, early adopters, the early and late majority and the laggards. Encouragingly, the farmers who were innovators and early adopters were responsible for a disproportionately large share of the national herd.

Echoing previous speakers, she urged vets to become agents of change for their farmer clients. Because they were familiar with a farm's current setup and the farmers themselves, they were well placed to identify their greatest motivations for change (eg, greater efficiency or improved animal welfare).

AgResearch rural sociologist **Sue Peoples** told deer vets that achieving change was always about people. “You should negotiate change – don't just tell farmers what to do.”

She said consumers – including farmers – were confronted with a bewildering variety of choice, but decisions were not always rational. “If we always made rational decisions, no-one would smoke or drink-drive,” Peoples noted. She



Theme team: From left – Mandy Bell (Chair, Productivity Leadership Group), Peter Aitken (Chair, Freedom to Operate Group), Tony Pearce (Genetics and Physiology, and Feeding Groups), Adrian Campbell (Chair, Animal Health Group), Innes Moffat (Value Chain Group) and Dave Lawrence (Chair, Genetics and Physiology Group).



Sue Peoples, AgResearch: Many factors influence attitudes to change.

said vets were authoritative figures and could help farmers reach decisions about change without telling them what to do.

She also advised vets to make sure they were talking to the right person. “The man in the farming partnership is not always the person who makes decisions about animal health.” Vets should also make sure they’re talking a language their clients can understand, she added.

A whole raft of other factors would influence farmers’ attitude to change. These included personal

priorities and life stage, the characteristics of the property and its livestock. Peoples noted that farmers should be treated as individuals. Not all will have the right skills in all areas and some might need more support than others when it came to implementing a new technology.

## Parasite update

### What CARLA tells us

AgResearch scientist, **Colin Mackintosh**, updated vets on CARLA (it stands for CARbohydrate Larval Antigen) and some recent work he’d done using the CARLA test.

He explained that CARLA is produced by animals in response to a hard coating, or sheath, that parasite larvae use to protect themselves as they move through the gastrointestinal tract. Animals become sensitised to the sheath as the parasites penetrate the gut wall. Because the protective sheath is carbohydrate rather than protein based, animals are slow to produce a strong antibody response and it requires constant exposure for their immune systems to recognise the invader. The anti-CARLA antibody produced by the animal is produced in the gut. It coats the growing larvae and prevents them from penetrating the gut wall. Some antibody makes it to the salivary gland and by measuring the amount of antibody in the saliva it’s possible to gauge an animal’s immune response to parasite infection. (The CARLA test for sheep was developed by the Hopkirk Institute.)

In initial work to see if the CARLA test would be useful in deer, Mackintosh found that high CARLA levels in autumn and spring in response to greater parasite challenge were correlated to lower parasite burdens. He said the antibody response of wapiti cross deer to parasites was lower than for red deer. “Even though these animals were only about one-third wapiti, that was enough to have an impact on their immune response.”

Mackintosh said the same trial work also showed that the correlation between faecal egg count and parasite burdens was close in autumn but not in spring. “In spring we found animals with very low egg counts were carrying high burdens of parasites. Something about the deer’s immune system is suppressing egg output, although not so much in the wapiti cross deer.”

Turning to his latest work, Mackintosh described trials with

three groups of 40 animals on Landcorp’s *Hindon Station*. The individual groups were killed on October, November and December last year to compare levels of CARLA with actual parasite burdens. Each group had been given a double dose of oxfendazole six weeks before slaughter so that they started the trial cleared of adult parasites.

As it happened there was a cold spring with very low parasite challenge. Although the data gathered was not great, there was still enough to show a relationship between higher CARLA readings and low worm counts.

Other work was done on stud animals on Landcorp’s adjacent *Freestone* and *Stewart* properties. These could not be slaughtered to do worm counts but saliva, blood and faecal samples were taken. These were pure wapiti and results were consistent with the earlier work showing wapiti cross animals were less able to produce CARLA. “We did find a sire effect in red and wapiti offspring, however. That gives me some hope that we may be able to select wapiti that can produce better antibody levels. We don’t know the degree of heritability yet, but CARLA antibody has been included as a phenotypic measure in the deer progeny test, which will help us measure heritability.”

### Pour-on still not performing

Veterinarian, **Dave Lawrence**, followed up earlier work on the effectiveness of different administration routes for moxidectin drenches, with results from 2011 trials confirming that pour-on moxidectin is no longer viable for deer. The trials were carried out with the assistance of Landcorp and AgResearch.

The kill rates for mature and immature for *Ostertagia* spp. with the pour-on were 79.4% and 71.3% respectively – well below the effective cutoff level of 95%. Moxidectin pour-on, injectable and oral treatments were compared, along with abamectin injectable drench. (The abamectin had been used on the trial farm and the manager wanted to see how it stacked up with the moxidectin treatments.)

The summary of efficacy results for the trial is as follows.

	Ostertagia adults (% killed)	Ostertagia larvae (% killed)
Abamectin injection	99.9%	93.9%
Moxidectin injection	100%	99.5%
Moxidectin oral	100%	95.9%
Moxidectin pour-on	79.4%	71.3%

Lawrence said that larvae were generally more difficult to kill than adults and the figures showed this. He said the trial results confirmed that on this property (Landcorp *Mararoa*) they should continue to avoid using a moxidectin pour-on, and also move away from the abamectin injectable drench.

Looking at the blood profiles, the research confirmed that the drench response to injectable moxidectin was far higher than for oral or pour-on. Lawrence said the relatively low



Colin Mackintosh: Wapiti genes appear to have a strong influence on ability to resist internal parasites.

level of moxidectin in the plasma had probably not changed over the years – what had changed was the parasites' resistance to the chemical.

He said the take-home message from the trial work was

- avoid using pour-ons
- use a combination drench
- quarantine drench
- use refugia to maintain populations of drench-susceptible parasites on pasture.

If drenching was only targeting lungworm (not gastrointestinal parasites), then moxidectin alone could be used, he noted.

“There are no shortcuts. If you're not going to knock out gastrointestinal parasites with a combination drench in the autumn, then that's just dumb. I know it's expensive for the farmer and hopefully we can find a less expensive combination, but really there's no choice.”

## Anthelmintic options for deer

**Colin Mackintosh** said there are various ways to control parasites but farmers were still heavily reliant on anthelmintics.

Challenge could be reduced by providing clean pastures (eg, following crop or hay/silage harvest), grazing management, choice of pasture species, post-rut weaning or lower stocking rates. Inter-grazing with other species also helped.

Mackintosh said veterinarians could help farmers make decisions around choice of anthelmintic (depending on drench history), what animals to treat and when. Climate played a part, he said. Drought and cold both suppressed parasites on pasture and reduced challenge, but conversely, “if you're growing grass, you're growing parasites”.

Decisions about when to start drenching would be driven by risk factors – for example, if the season had been dry, drenching could be delayed. Knowing when to start drenching for lungworm was tricky because of the three-week pre-patent period for the larvae when it was difficult to detect what was going on. “Drenching for lungworm should start at the first sign of trouble.”

Looking at the different drench families, Mackintosh noted that not all white drenches (benzimidazoles) are registered for deer and those that aren't registered have a default 91-day withholding period. The white drenches are very short acting so need to be used at short intervals and beginning early in the risk period. All white drenches are oral.

The mectin and milbemycin families include abamectin, doramectin, eprinomectin, ivermectin and moxidectin. Most are available as oral, injectable and pour-on formulations but many are not registered for deer. Mackintosh said all members of this group were definitely not equal in terms of efficacy and persistence, as Dave Lawrence's work had shown. (Even different formulations of the same active ingredient could affect persistence and efficacy.) Most were effective against lungworm, however. Of the active ingredients in this group, moxidectin was the most efficacious and persistent and eprinomectin the least, Mackintosh said.

Summing up, he said decisions about anthelmintics were

much more difficult than previously, when pour-ons solved most problems. The main challenge period was from January to June and, in general, combinations were best. Because many products were unregistered for deer, there will be a 91-day withholding period, which can affect choice of drench. (One exception is *Cydectin Injectable*, which can be used with a 49-day withholding period if used under veterinary advice and given subcutaneously.)

Mackintosh warned against mixing two drenches that are not licensed as a combination – rather they should be administered at the same time but as separate formulations such as an oral white drench and an injectable. He said levamisole (clear, or yellow drench family) had little or no activity in deer, although levamisole is commonly included in drench combinations recommended by deer veterinarians.

Farmers planning a parasite control programme should do so in consultation with their vet as part of their annual animal health plan.

## Costly affair bringing new products to market


**Victoria Chapman**, Pfizer Animal Health, gave deer veterinarians a rundown on why no-one should hold their breaths waiting for new or existing anthelmintics to be registered for deer in New Zealand.

For the global businesses that make these products, scale really does matter and it's sectors like poultry, pigs, cattle and fish farming that attract all the new product development. Chapman said that even when there is a great product widely used, it's unlikely a manufacturer will have the market to themselves. *Cydectin*, even at its peak of popularity, never commanded more than 50 percent of the market in the New Zealand deer sector.

She said manufacturers needed to see a return on investment for new products and that investment can be very large. Up to 50 boxes of information can be required to support a new product registration, with regulators needing data on chemistry, manufacturing, efficacy, safety, residues, toxicology, requirements of minor species and so on.

For an anthelmintic, data can be required on persistence, dose levels and residues, with separate studies for each worm species in the label claim. This will involve lab work, pen trials, field trials, veterinary observation and slaughter studies with animals receiving up to five times the recommended dose when doing safety tests. Safety trials are also required when testing use of a product alongside other products such as vaccines and separate work is needed for pre-ruminant stages (eg, bobby calves).

Chapman said the total costs involved in bringing a new product to market can be between \$250,000–\$500,000 – and that just for a single species label claim. If this wasn't disincentive enough to bring out new products, the regulators give only limited protection to company data, which means that competitors can piggy-back on others' trial work within a few years of product registration.

The economies of scale were also against minor species like deer. Manufacturers needed minimum production runs and this for products with limited shelf life, Chapman said. 



# A cost-benefit analysis of Johne's disease control

■ by Solis Norton, Project Manager, Johne's Management Limited

One of the most common questions about on-farm Johne's disease (JD) risk management plans is "was it worth it?" Johne's Consultant Network (JCN) veterinarian, Beatrix Loomes and the JML Project Manager have recently completed a case study to answer this tough question on one Canterbury farm.

As soon as a farmer "intervenes" in a JD problem, they have changed the impact of the disease on their farm – they can never be sure what it would have done in the absence of intervention. This unknown impact is a real challenge for estimating the cost effectiveness of a risk management plan. One way around it is to use several different scenarios. For example, estimate the cost-benefit in three scenarios where the disease naturally got worse, or stayed the same, or naturally decreased.

There are other reasons why it is hard to evaluate the value of a risk management plan. For example, access to good data and cost estimates is difficult. And deciding which on-farm factors are truly due to JD and which are not can also be a challenge.

Analysis of the return on investment of the JD risk management plan was discussed at a recent Macfarlane Agribusiness Group Field Day on *Springdale* farm run by Lyal Cullen and Marion Neill in Canterbury.

Lyal and Marion's risk management plan consisted of using the Paralisa™ blood test on the R2 hinds each year from 2005 to 2011 and culling test positive deer.

The first signs of JD in this herd of around 500 hinds were early in 2005 and led to 25 recorded deaths over the next 12 months. Using the JD annual cost calculation programme, the economic loss that year was estimated at \$14,244 or \$7.31 per deer stock unit. It was mostly due to the clinical cases that required euthanasia, but also to subclinical effects of the disease. Carcasses with lesions identified in them were 8 percent lighter than other carcasses from

## High-prevalence farms to be contacted

JML is putting in a concerted effort to contact the 60 deer farms with the highest prevalence of Johne's disease (JD) suspect lesions in their processed deer. These farms represent a small group that sits apart from the majority. JML seeks to understand the severity of JD on these farms and to offer assistance from the Johne's Consultant Network to develop an appropriate on-farm JD risk management plan.

Contact will initially be in the form of a letter requesting a brief phone discussion with JML. The phone discussion will then cover 10 questions relating to JD and offer recommendations on the best course of action. Any information collected by JML will remain strictly confidential and for in-house use only to improve the performance of JML and the control of JD in New Zealand's farmed deer.

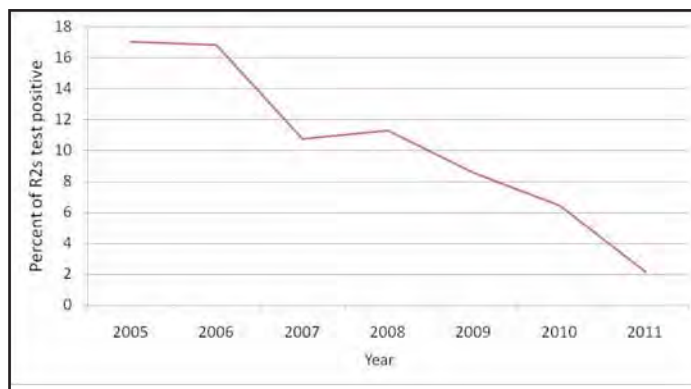


Figure 1: Percent of R2 hinds on Springdale farm that tested positive to the Paralisa™ blood test annually over seven years

*Springdale*. The cost of testing (\$2,200) that year was also included in the estimate.

Over seven years of testing, the percentage of Paralisa-positive R2 hinds dropped from 17 to 3 percent (see Figure 1) for a total spend of \$15,400. Clinical cases of JD dropped too and are now down to one or two deer per year. At present, the economic impact of JD is about one quarter of 2005 levels at \$3,537, or \$2.07 per deer stock unit.

## Was it worth it?

A cost-benefit analysis was developed from 2005 to 2011. It compared the annual economic loss that *Springdale* recorded while controlling JD, with four future scenarios

**Last chance for the 'know your status' promotion of up to 100 free tests**

Contact the Johne's Consultant Network for details and a tailor-made JD risk management plan for your deer operation.

0800 456 453, [info@johnes.org.nz](mailto:info@johnes.org.nz) or visit [www.johnes.org.nz](http://www.johnes.org.nz)

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without control. To be conservative, in our scenarios the impact of JD naturally declined. The scenarios were:

- 1 annual loss remained at the 2005 level
- 2 annual loss from 2006–2012 was half that in 2005
- 3 annual loss from 2006–2012 was a quarter of that in 2005
- 4 annual loss from 2006–2012 was one eighth of that in 2005.

The cost-benefit ratio of testing over the seven years was estimated for the four scenarios respectively at 1:5.5, 1:3, 1:2, and 1:1.4. In other words, the benefit of the risk management programme varied from \$1.40 to \$5.50 for every dollar invested, depending on how quickly we thought the disease could have naturally declined.

If JD had actually worsened from its 2005 levels, then the benefit would have been greater than \$5.50 per invested dollar. In all scenarios there was a net benefit to *Springdale* from controlling JD by blood testing the R2 hinds. In today's drab economic climate a three-fold return on investment over seven years, safe and free of tax and exchange rate vagaries, is a wise use of funds. Consider it a productivity gain.

Another important benefit impossible to quantify is the peace of mind on *Springdale* knowing that each year replacements entering the mixed age hind mob have a progressively lower risk of developing JD. No time bombs there.

This analysis, like all models, is a simplification. It does not account for many indirect impacts of the disease, which can be hard to prove. But in many ways, simple is good. We still capture the main factors and we treat them conservatively. We avoid the contentious issues around the indirect impacts. We focus only on the 2,000 processing records, testing data, and seven years' farm experience controlling JD.

Using *Springdale* as an example we've shown that a JD risk management plan works, that it takes time, and that it is cost effective, even if there is the odd blip along the way. Lyal and Beatrix will work together to adjust the plan to keep it cost effective and efficient. For example, as disease prevalence declines, emphasis may shift from regular

### Johne's Management Limited joins FarmsOnline

As of September both Ovis Management Ltd (OML) and Johne's Management Ltd (JML) will share their farmer contact details with the FarmsOnline.

Launched last year, FarmsOnline is a spatial database application managed by the Ministry for Primary Industries and provides a current list of farm contact details, so that in the event of an exotic disease outbreak, a fast, effective response can be launched.

Contact information will be limited to farmer names, addresses and phone numbers. Farmers will be contacted in writing in coming weeks and those who do not want their details held on the FarmsOnline database can opt out.

For further information visit

- [www.farmsonline.maf.govt.nz](http://www.farmsonline.maf.govt.nz)
- or phone Johne's Management Limited on 0800 456 453.

testing to more periodic surveillance-based testing and a greater focus on other options for improving productivity. This dynamic approach fits neatly into animal health plans in the industry's recently unveiled Productivity Improvement Programme and uses JD control as one rung on the ladder to higher deer productivity.

JML would recommend to all farmers who see clinical cases of JD in their deer to contact their local JCN veterinarian and discuss options for a tailor-made on-farm JD risk management plan to suit their farming operation. The plans will work, they use tools grounded in science, they have skilled support and they are designed to be cost effective. 

## Obituary: Dave Smith

It is with great regret that we advise Dave Smith passed away on 19 June, after a very tough battle with cancer. Dave had been the co-owner and manager of Duncan Processors for the past 11 years, from its establishment in 2001.



Dave Smith

Before that, Dave had a lengthy career at Mair Venison, where he was the Operations Manager, supervising their three venison plants. Previously he had worked for Huttons, where he was instrumental in developing the famous Huttons Cheese Sizzler.

Dave was not only an outstanding manager and business colleague, but a valued friend, to many who worked with him, and for him.

Not only did he make a huge contribution to the companies he worked for, but he had a major influence on the wider deer industry through his involvement in the Deer Industry New Zealand Technical Committee, which he chaired for several years.


Dave championed the quality standards that underpinned the Cervena® programme and pioneered much of the yield grading work that is now being implemented.

Those who worked with Dave have said he was always a pleasure to work with, but during the last two years, from when his cancer was first diagnosed, he was truly inspirational.

Dave's last two years were really tough, but never once over that time did he lose his cheery demeanour, his sense of humour or his professionalism. He made it very easy on those around him.

Dave is survived by his wife Jane, daughter Melissa and son Andrew .

He will be hugely missed by all those who knew him and his passing will leave a very big hole in the industry he was so passionate about.

Footnote: Jane, Melissa and Andrew, would like to thank all those who attended Dave's funeral, or sent their condolences – your presence and kind wishes were very much appreciated, and of huge support at this time. 

■ Contributed by Andrew Duncan

# Deer behaviour on high country

■ by Claire Grant, *Deer Industry News* writer

Farming deer in New Zealand's high country is on the increase, but little information has been available until now on exactly how deer use this class of land.

However a five-year study just completed by AgResearch deer scientist, Dr Andrew Wall, has revealed interesting and useful knowledge on how deer behave and graze in extensive tussock grassland paddocks.

The results will help farmers review and develop farm management techniques for deer in the high country that maximises production while managing sensitive ecosystems. This will be based on objective evidence of how to manage deer in high country land, rather than relying solely on anecdotal information.

This is invaluable information at a time when demand for more intensive lowlands is increasing.

Making full use of GPS and satellite imaging technology, Wall and his team now have data on how far deer range over different seasons and just how selective deer are about the habitats they occupy.

It was the first time deer grazing in an extensive area similar to their natural native environment has been studied so comprehensively in New Zealand.

The GPS collars fitted onto hinds opened new possibilities for the scientists. GPS recording mapped the movements of a group of hinds set-stocked in an extensive high country paddock on two different sites – *Haycock Station* in Southland, and *Whiterock Station* in South Canterbury during late spring/summer, and at *Whiterock* over a winter. This showed clear ranging patterns over time.

## What they found

The home range of the hinds varied between 33 and 97 hectares in both the summer and winter trials. Although the daily activities are large, only a small part of that range is intensively used – about 6–25 hectares or up to 32 percent of their home range. Although the hinds moved through shrub areas, this only formed a small part of the vegetation they inhabited.

Land use was uneven: the animals avoided some areas altogether, and congregated closely in relatively small areas in others to feed and interact with others in the herd.

This lack of evenness in paddock use has implications for when farmers select hind stocking rates for these paddocks – and for the potential productivity of the paddock. If deer are avoiding shrub areas, grazing area spread is less, increasing the effective stocking rate in the paddock. This may



Deer fitted with GPS collar for the trial.

mean deer in a shrub-dominated paddock may not be feeding to optimum, even though they each may be allocated a large area.

There is no one-size-fits-all for high country stocking rates. To get it right, farmers need to have a good idea of the resources on their properties, taking the vegetation and paddock terrain into account and understanding where deer won't go. This will not only optimise productivity but will also ensure tussocks and other potentially sensitive areas are not being overgrazed.

Hinds that were moved into the paddock in AgResearch's winter trial quickly established a routine of grazing mainly lower slope pastures from sunset through until sunrise, moving upland to graze and rest in tussock and occasionally shrub areas during daylight hours before returning to the grasslands at the end of the day. The ranging covered several kilometres over a variety of terrain.

This pattern means transfer of nutrients is likely from the pasture areas into the tussock land where deer rested.

However behaviour changed noticeably when the hinds were also given access to a kale crop in a neighbouring paddock. The animals spent a lot more time grazing the energy-dense fodder with less movement into the higher country and therefore less use of tussock and shrubs.

All of the animals in the trial showed a strong preference for kale and it became a large component of their diet and of their time.

This, too, has implications for transferring natural fertility into pasture-dominant areas of the paddock, with the grass areas getting more nutrient-rich droppings and the tussock and shrub areas likely to be missing out.

The use of a kale or other forage crop, therefore, gives high country farmers a valuable extra management tool, providing an option for high-quality feed for hinds in mid pregnancy, a low-cost method for transferring fertility and it also provides opportunity to reduce adverse grazing pressure when needed in tussock country.

As expected, hinds required cover in the paddocks to calve in, but not necessarily near shrubs. The study showed tussock areas are enough to provide hinds with a vantage point to reduce stress during calving.

Wall is currently bringing the five years' worth of data into a package to help farmers make informed decisions. This could help farmers reaffirm their current approach or fine-tune existing farm management practices.

The key is understanding the resources available in these paddocks. 📍

## Weather not a big factor

The trial also compared deer movement with weather patterns to show bad weather has relatively little impact. There was slightly less activity in the morning from hinds during cold and wet weather, but this was usually compensated by greater movement later in the day.