

DEER INDUSTRY NEWS

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Breeding for venison production: p15

Also in this issue:

- New Deer Industry New Zealand Chair and Board members
- Game Animal Council proposal heralds big changes
- Market overview: Switzerland
- Applying gene technology
- New technology: avoid or embrace?
- Branch Chairman profile: Richard Burdon – Otago



**DEER INDUSTRY
NEW ZEALAND**

NZDFA
New Zealand Deer Farmers' Association



Hard work required to realise industry potential

Andy Macfarlane is new to the DINZ Board and new to the Chairman's seat. Here he outlines his take on the challenges and opportunities facing our industry.

I am honoured to be leading the team charged with the responsibility for your industry.

Deer Industry New Zealand has a dedicated, hardworking board with a diverse skill set. We also have a talented executive team lead by Mark O'Connor.

What sets Deer Industry New Zealand apart from other industry good organisations is the relationship between producers and exporters. Around the DINZ board table sit exporter representatives for venison (Grant Cuff, Andrew Duncan and Glenn Tyrrell), velvet (John MacDonald) and producer representatives Jerry Bell (vice chairman, Wanaka), Graham Carr (Peel Forest), Collier Isaacs (Landcorp) and me.

That group of people, representing the front end of the value chain, acting as one, creates an opportunity, a disciplined approach to the setting and delivering of a strategy assisting long-term profitability for the industry.

That collaborative, disciplined approach can be reinforced by producers making forward commitments to processor/marketers, hence enabling a more predictable "in-market" strategy. Given New Zealand's dominant position in world venison and velvet markets, it is critical we get that strategy correct.

DINZ applies over 50 percent of the levy budget to support the in-market strategy of the marketing entities.

At the opposite end of the supply chain lies the productivity potential of our livestock.

Deer already have some significant competitive advantages



in a number of our farming environments. Along with sheep and goats, they are the only significant grass-fed ruminant animals farmed. Their feed-demand curve suits much of our pastoral land. They are capable of complementing sheep and cattle in choice of diet on hill and high country. Being recently domesticated, their genetic potential is at the early stages of improvement.

The challenge for our industry is to apply and leverage our research capability to ensure management systems and genetics improve at a rate allowing deer to compete forcibly with alternative land uses. To maintain momentum requires significant investment in applied research. To keep the pipeline of applied research full requires some co-investment in basic research.

The second-largest slice of your levy money (over 20 percent) funds research. Historically the deer industry has been well serviced with research capability. The need now is not only to invest wisely, but to ensure we maintain core human research capability to deliver for the next generation.


The third major slice of your levy fund investment is in the DINZ management team. A key reason for accepting the role as DINZ Chairman was my observation, looking in from the outside, that the deer industry was particularly well served with its executive staff across venison, velvet, production, research and administration services.

On your behalf, DINZ has recently funded Mark O'Connor to take part in one of the world's most recognised executive management courses. Such investments in developing our human capability are critical to the success of our industry.

Looking ahead, it is my firm belief that we face a very positive farming future where some of the "big plays" involve a structural upgrade in the value of meat protein, recognition of the nutraceutical and health properties of animal products, and the purchasing power of the Asian and Indian continents.

Putting venison and velvet into that context should make us hungry to be part of a growing deer industry!

Such potential will not fall into our lap without a lot of hard work and investment by all parts of the industry.

I look forward to helping deliver that potential. 

■ **Andy Macfarlane, Chairman, Deer Industry New Zealand**

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Circulation enquiries: Deer Industry New Zealand, PO Box 10-702, Wellington, Ph 04 471 6114, Fax 04 472 5549, Email info@deernz.org

Editorial and advertising enquiries: Words & Pictures, PO Box 27-221, Wellington, Ph 04 384 4688, Fax 04 384 4667, Email din@wordpict.co.nz

Cover: AI is the key to rapid dissemination of elite genes across the venison industry, argues Deer Improvement's Jake Chardon. See page 15. Photo: Richard Hilson.

New blood and new chair on DINZ Board

The empty seats on the DINZ Board have been filled and we now have a new Chairman and Deputy Chairman. As reported in our coverage of the recent Deer Industry Conference in Napier, DINZ Board Chairman, John Scurr, has retired from the position after five years in the role and nine years on the Board. Former Deputy Chairman, Stuart Natrass and Board member Keith Neylon also retired. That left three vacancies, which have now been filled. The new Board members and Chairman were elected at the 46th Deer Industry New Zealand Board meeting on 15 July.

Chairman: Andy Macfarlane

Andy Macfarlane, principal shareholder of Macfarlane Rural Business in Ashburton, was nominated by South Canterbury deer farmers David Morgan and Johnny Acland. He was duly appointed to the Board by the NZDFA's Selection and Appointments Panel and his already busy business life was further stretched with his election as Chairman of the Board.

His other commitments include being a director of ANZCO Foods, President of the New Zealand Institute of Primary Industry Management and a member of the Lincoln University Council. The connection with Lincoln highlights Andy's interest in making sure young people are encouraged in careers and progression in the rural sector. His expertise encompasses rural business management, strategic advice in rural New Zealand, animal and crop production systems including irrigation and associated management, environmental management and family and business succession planning.

He has links to the deer industry: "We bought our first deer – for \$2,500! – in 1983 and have owned farm land since 1989." Though he and his family have since moved to dairy, Andy still maintains an interest in 500 hinds and finishing deer in the Canterbury foothills. Three of Macfarlane Rural Business's eight farm consultants work in the deer industry. "We're pretty heavily involved with deer as a group and we see deer as a key component of the future of South Island agriculture."

Reflecting on the deer industry in general, Andy sees a major advantage: "Deer and sheep are the only two species of farmed ruminants that are largely grass-fed. We sometimes forget that over 90 percent of the world's dairy cattle and beef animals are grain-finished. Deer genetics are at an early stage of development and I think there's a lot of potential to improve deer performance rapidly relative to other animals that have been under genetic selection for centuries. The deer feed demand suits a lot of New Zealand's hilly, high country and that's why I don't think we want to beat ourselves up about deer moving off the plains."

Andy also focuses on the people in the industry: "We've had some innovative leaders over the years and a number of those people are still involved in the industry. As a group, we have to be passionate about what we're doing to survive in today's world; the people who have driven the growth of the deer industry, are a very passionate group. They have a strong ethic of entrepreneurship but we also have to maintain a culture of discipline and collaboration – and I'd distinguish between competition and collaboration here. I think we can have competition and still have collaboration."



The challenge is to manage the growth of the industry. "Deer farming, while a small part of the rural sector, is an important part. This is the case particularly in specific areas where deer are a good fit biologically and hence are significantly more profitable than other livestock classes. I also think that the deer industry, because it's small and lighter on its feet, can show leadership in the red meat space. But while I see the potential for growth, I think the challenge is for it to grow in a disciplined manner."

And while Andy's background could be expected to bring a sense of discipline to Board chair, he comments, "I think it's a strong Board with a really good mix of skills around it. I'm delighted to lead a Board of that calibre."

Understandably, he is not yet in a position to commit to an agenda: "It's too early to say. We will strategically review the needs of our industry and the role of DINZ, as the industry good body, in achieving long-term profitability throughout the value chain."

"When you're new on board and straight into the Chairman's role, you've just got to be a bit careful that you don't launch into something without the appropriate information!"

Collier Isaacs

Coming up through the ranks at the Game Industry Board – predecessor to DINZ – saw Collier Isaacs move from being a Massey University graduate with experience working on deer farms to GIB Chief Executive within 10 years. On the way to this position he was also appointed as assistant to the GIB general manager and worked in the velvet marketing portfolio.

After two years at the top, starting in 1999, he moved into international marketing for the former Meat New Zealand, followed 18 months later by a call from Landcorp, where he took on the new role of Strategy Manager. "My role was business plans, research and development, budget development and so on. At the time, Landcorp was getting involved in the deer industry in a big way and we've done a whole lot of deer and dairy development since. While we have about two percent of sheep, beef and dairy, we have about 10 percent of the deer industry in terms of numbers. A couple of years ago, following a restructure, my role became strategy and services which added training, quality, safety, procurement and marketing to what I was already doing."

Standing for the DINZ Board hadn't been on Collier's radar, but when the Southland Branch of the NZDFA approached him, he took to the idea straight away. "I thought it would be very interesting to continue my involvement with what was the GIB and is now DINZ." Not that he's been away from the industry. As well as his involvement through Landcorp's



Deer Industry New Zealand Board, 2010

Appointed by the New Zealand Deer Farmers' Association:

- Jeremy Bell, Criffel Station, Wanaka (Deputy Chairman)
- Graham Carr, Peel Forest Estate, Geraldine
- Collier Isaacs, Landcorp Farming Ltd
- Andy Macfarlane, Ashburton (Chairman)

Venison, Velvet/Co-products industry appointees:

- Grant Cuff, Alliance Group, Southland
- Andrew Duncan, Duncan and Company, Auckland
- John MacDonald, Velvet Processors Association, Canterbury
- Glenn Tyrrell, Silver Fern Farms

major role in deer farming, Collier has been Chairman of DEEResearch since around 2000.

And apart from his background in deer, Collier feels he has a lot to offer the Board: "I'm more of a generalist than a specialist - I know a little bit about lots of things and I know a lot of people to find out more detail if I need to. The DINZ Board does have to get across a pretty broad range of things and we don't always have specialist knowledge on the topics. I figure that one way or another I can track down something relevant.

"I've also always been keen on doing things through partnerships, which is the way Landcorp works. I'd like to assist and maintain an industry partnership approach to the way the deer industry functions."

Collier has a definite enthusiasm for the deer sector, noting that it's the only pastoral diversification that's stood the test of time.

"Goats came and went, there's been llamas, alpacas, emus, ostriches... a whole heap of stuff that's been tried and the only one that's really stuck, alongside established livestock, is deer. The reason it's stuck is that rather than starting off with a product and trying to find a market, the deer industry already had ready markets in Europe for venison and in Korea for velvet. We started with an established market even if we didn't know too much about it in the early days. Further to this, we started from a strong base because we had some key markets for what effectively were premium products. After that, it was about working out how to effectively farm and improve an animal that lives very happily in the wild all by itself without fences.

"Deer are amazing animals and produce amazing products. They're well-aligned with most of what consumers are requiring these days, whether it be a healthy food or healthy products. The challenge is that it's a small industry; to make

it work and grow we need to take a partnership approach."

Glenn Tyrrell

Joining the Board as an industry appointee is Glenn Tyrrell, General Manager Sales and Marketing, Silver Fern Farms Limited. Glenn has been




with Silver Fern Farms since 1979, when it was still the Primary Producers Co-operative Society (PPCS). There, he was responsible for venison and European lamb marketing from 1984 to 1987 and worked from PPCS's London office between 1987 and 1988. Between 1989 and 2004, Glenn returned to venison and European lamb marketing. It was at this point that PPCS took control of Richmond Venison, having taken over Mair Venison in 2001. The acquisition of Richmond coincided with Glenn becoming full-time Venison Marketing Manager and in 2007 he took over the role of General Manager Sales and Marketing across all Silver Fern Farms products.

He was, he says, surprised but pleased that the Silver Fern Farms Board had the confidence in his experience as a venison marketer to nominate him for a place on the DINZ Board.

Glenn notes that the Board has a very good blend of both new and more experienced directors who collectively represent all areas of the deer sector. "I think the combination of experience and knowledge around the Board table is very positive."

In support of his own position, Glenn points to the more than 25 years of venison marketing experience he brings to the DINZ Board, combined with a broad knowledge of processing and other red meat marketing. Silver Fern Farms is a farmer-owned cooperative that works at industry level for the interests of farmers as a whole, and adds: "I hope that this is a quality I can bring to the DINZ Board for the benefit of all deer farmers."

On Silver Fern Farms' recent activities, he says "We are returning good prices to deer farmers in spite of an over-valued New Zealand dollar and weak currencies and economies in our key export markets. High market prices are being supported by lower supply volumes, but the result is largely due to the responsible approach by a group of exporters and their customers who have all made a significant investment in New Zealand venison over a number of years.

"Once we work through the shorter-term currency and economic issues, the outlook for New Zealand venison is very exciting and I hope that enough farmers remain in deer farming to satisfy future demand for New Zealand venison." 

Game Animal Council report: some of the fine print

The Game Animal Council (GAC) proposal looks likely to create the biggest changes in game animal administration since the Wild Animal Control Act of 1977. And while non-commercial interests will constitute a majority on the proposed Council, deer farmers would still be directly represented.

Major changes suggested by the proposal include reclassification of wild animals as game and partial devolvement of management responsibility from DOC.

The report is in the hands of the Minister of Conservation, who will respond formally in September.

A major feature of the proposal is that the Council will be all-inclusive and multi-representational, bringing to the table all recreational and commercial interests in game animals. The GAC Establishment Committee says it sees “no benefit to the sector as a whole in a more narrowly focused body that would only perpetuate and increase past conflicts”. Another point is that the Council does not propose to exercise any mandate on private land, meaning farmers need not fear any threat to their existing property rights.


In response to submissions from the deer industry the Committee has recommended reclassifying “wild animals” (deer, chamois, tahr, wild pigs) as “farmed game animals” on farms, and “estate-managed game animals” on game estates. The report also proposes to devolve the management of deer on farms and game estates away from DOC: “Farmed deer are privately owned, treated as stock in every other respect, and governed by MAF requirements covering ownership, confinement, animal welfare, disease surveillance, identification, animal health, etc ... this requires the farmed status that brings the deer industry under the auspices of MAF rather than DOC.”

Hunting deer, chamois, tahr and pigs in the wild would be administered by the Council, which is proposed to take over the hunting permit system and develop a voluntary hunter registration scheme. However, the report says this is not about removing all DOC control over wild game. DOC would still call the shots on lands of high conservation value, while on public lands of lower conservation value the GAC would be empowered to manage the animals as game, putting the emphasis on “hunting benefits” in these places. In the wild, deer, chamois, tahr and wild pigs “should be ‘wild game animals’ and managed for different objectives at different places,” says the report. This seems to be consistent with the DOC policy of “place-based management” – a shift away from the idea that every game animal poses an equal biodiversity threat whether it is living in a patch of scrub on the roadside or on an offshore island full of kakapo.

“In places prioritised by DOC planning processes for conservation purposes only, they should be managed by DOC for those purposes. The GAC should then be able to manage game animals outside of those places,” says the report. “The GAC should assist with animal control in the areas and with the species DOC manages actively, but elsewhere should also manage game animals to provide additional benefits to hunters and game animal managers that DOC is unable to provide.”

Representation and selection process have been major issues for the establishment committee. It is proposing to have six recreational hunter councillors plus two Maori and one from Safari Club International. Broadly speaking, these nine are non-commercial interests and make up a majority. There are also six proposed representatives, essentially of commercial interests, from the Sporting Industry Association, Federated Farmers, Association of Game Estates, Professional Hunting Guides’ Association, New Zealand Deer Farmers’ Association and the aerial game recovery industry. The other proposed members are one from DOC (who the report states would not be expected to exercise a vote) and an independent Chair, making a total of 17.

These figures suggest that recreational hunters’ fears of a Council dominated by commercial interests are groundless. Nevertheless, the report does not see the Council as an “us versus them” organisation: “The Committee envisages a Council with a commonality of purpose, resolving its issues through collaboration and consensus ... The deliberations of this Committee itself provide an example of this working in practice, since all recommendations in this document are unanimous.”

Comparisons have been drawn between the GAC and Fish and Game New Zealand. Federated Farmers, remembering the “dirty dairying” campaign, has expressed concern that the GAC could become another stick with which to beat the Kiwi farmer. However, the report argues that while both the GAC and Fish and Game New Zealand are models of user management, they have little in common at the practical level. For example, Fish and Game is required by statute to focus on the interests of its members, but the Council would be answerable to the nation as a whole. Also, there is no representation of commercial interests on Fish and Game, meaning there is no forum in which to find collaborative solutions to address problems like Canada goose management. While Fish and Game consists of 13 independently constituted bodies, the Game Animal Council will be a single national body with representation of all game animal interests, the report says. 

■ **The GAC report can be downloaded from www.nzgac.org.nz**

“DOC would still call the shots on lands of high conservation value”



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Venison

Production

Production to the end of May 2010 was in line with the DINZ production scenario, which forecast a 20 percent reduction in deer slaughter numbers this year. Hind numbers are running at around replacement rate, which might indicate that the national herd has stabilised after five years of contraction. It may be that the reduction in lowland deer farms is being balanced by increasing numbers in the hill country. If the herd has stabilised at around 1.2 million, then stable venison production around 400,000 animals for the next few years will provide good returns to producers and an adequate volume of expensive venison for our international customers.

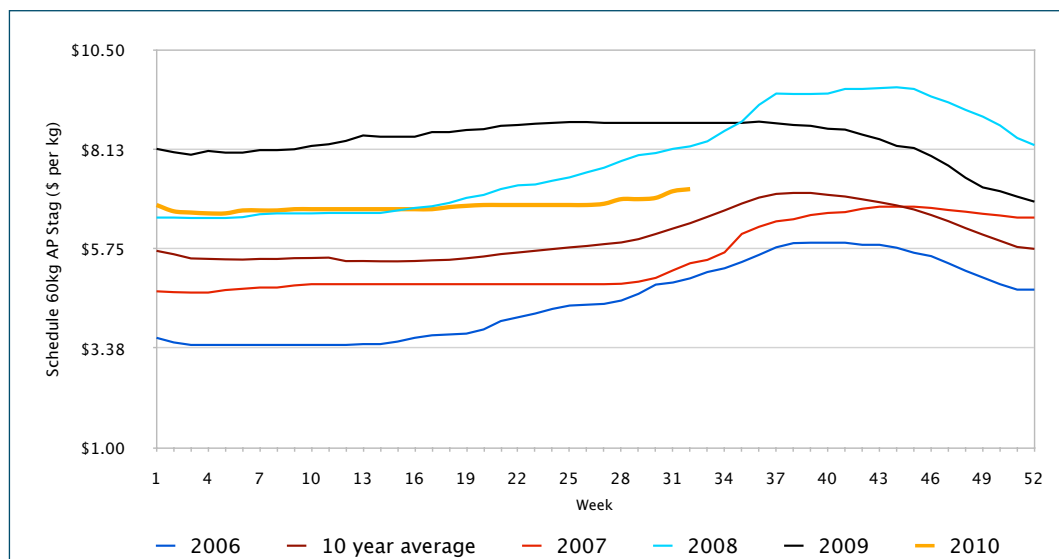
Exchange rate

After hitting a three-year high versus the euro in late June, the NZ dollar/euro cross rate eased back and has bobbed around the 56 cent mark for the last month (as of early August), 20 percent higher than the same time last year and about 10 percent above its 10-year average. The immediate concerns about a Greek default on sovereign debt appear to have receded for the time being, thanks to the promise of massive intervention in the debt market by the Eurozone governments. However, the likelihood of a default by a Eurozone government has not been completely removed, and the drag of high debt levels on European economies will weigh on the euro for some years to come. However, the New Zealand Treasury has modelled the economy using an average exchange rate of 0.51 for 2011. This would be nice, but this time last year they assumed the NZD would now be worth 0.37 euro!

Schedule

The annual rise in the schedule is off with a whimper rather than a roar. It started later, and is currently flatter and is less likely to be as large as in previous years. As well as currency considerations, this importantly reflects the general flattening of the seasonal schedule as more venison is exported chilled outside the traditional spring period and marketing companies are getting better prices for frozen venison as it goes direct to end users, rather than into store and onto the commodity market.

At \$7.17 (in week 32) the AP stag schedule is 13 percent above the 10-year average for this week.



Market conditions

After the oversupply of middle cuts on the depressed market last year, marketers report that stocks of frozen New Zealand venison for the forthcoming venison season are manageable. Chilled export prices are up slightly on 2009, with firm demand among importers expecting adequate demand from their customers for the coming game season. Also pointing to positive demand through the game season are reports that European game is in shorter supply due to less hunting through 2010's bitterly cold winter.

Nevertheless, demand for expensive food items remains subdued. Austerity measures are being put in place by many European governments as they try to rein in the enormous debts they have accrued both through the extra spending prior to 2008 and the stimulus measures introduced since the global financial crisis. Add to that continued cheap pricing of chilled beef and the market reality that it is not completely bullet proof.

In the USA the improvement in company profits has yet to translate into improvements in confidence among its citizens. Confidence indexes of the US food service remain pessimistic and have become moreso in recent months. An estimated 5,000 restaurants have closed over the past 12 months with the majority of these independent full service restaurants, the sector that primarily takes expensive meats like New Zealand venison.

Recent venison promotion activities

New Zealand recipe competition

DINZ is running a competition for food writers in New Zealand to encourage publication of venison recipes. Now that several companies have increased sales to the retail market it is timely to inform the population at large of venison's more widespread availability. Working exclusively with the New Zealand Guild of Food Writers, DINZ will be rewarding writers for publishing great healthy, family-friendly venison recipes in the country's food magazines.

Facebook

DINZ is asking for enthusiastic farmers to join us on the Cervena.com Facebook page.

As you know, Facebook is the online community where people post all sorts of stuff about themselves, their pets and their social lives. But it is also a prime source of information for millions of people everyday and, if planned correctly, a powerful way of disseminating information.

The recent example of Chef Rick Moonen using his Facebook page to counter the accusations made against him on *Top Chef* proves the usefulness of the medium in getting a message across.

Moonen posted our information under his own name – lending credibility to our information.

The Cervena® Facebook page will let you see at a glance some of the stuff that's going on to promote New Zealand venison, things you don't see because they don't happen in New Zealand. It will also let you comment on what you see and what others say about New Zealand venison.



DINZ staff Innes Moffat and Hannah Hsu will happily assist with advice on how to set up your own Facebook page.

Now, not only do we want to increase the reach of our Facebook page, we also want to engage with our venison producers. That means we would like some of you to set up Facebook pages and begin posting some comments on the Cervena site, and perhaps on your own "venison farmer" sites.

- Visit <http://tinyurl.com/2vce06h> to see the Cervena Facebook page and join as a fan.

"Deer in the spotlight"

"In this era of *Fast Food Nation* we all have justifiable concerns about the journey our meat has taken from pen to plate. It was refreshing to see first-hand the free-range raising of New Zealand deer, and the priority everyone there, from government to producer, places on quality control." Thus wrote Martin Gillam in his introduction to a four-page feature on New Zealand venison in the most recent edition of *Food Arts*, North America's most respected culinary magazine. Gillam visited New Zealand late last year in a visit arranged by DINZ in conjunction with Aquaculture New Zealand.



Top Chef defends use of New Zealand venison

New Zealand venison received a tremendous amount of publicity when it was used in the final of the American television programme *Top Chef Masters* (7.2 million viewers) in June. Chef Rick Moonen (a Cervena ambassador chef in

the mid-1990s) used New Zealand venison for his main dish in the final round of this popular television show. His venison dish was greeted with enthusiasm by the judges, even being described as one of the best dishes ever presented on *Top Chef*. However, his choice of a meat from New Zealand caused a storm of controversy when English food critic and judge Jay Rayner accused Moonen of hypocrisy by going against his "sustainable" public persona in using 'staggeringly unsustainable' air-flown New Zealand venison.

DINZ was notified of the use of New Zealand venison and immediately began to counter the negative interpretation via direct feeds to Moonen, submitting information on sea freighting and free-range pastures systems to numerous blogs that were commenting on the show and providing information to the television show's website, that carried further justification from Rayner as to why he did not think Moonen should have used imported products for his meal.

The information that DINZ supplied was posted to Rick Moonen's Facebook page (which has over 3,000 followers). It was also used by the chef's publicity department in responding to the accusations by Rayner on the *Top Chef* website and was repeated on a variety of Twitter sites, in response to Rayner's criticisms.



Top US chef Rick Moonen goes to bat for New Zealand venison.

Indicating that, perhaps, we won the argument, the original article on the *Top Chef* website by Jay Rayner was deleted after dozens of posts criticising him for wrongly accusing New Zealand venison of lacking sustainable credentials. By having the information readily available and already posted on websites and Facebook pages, the New Zealand industry was able to immediately respond to this negative publicity and turn the argument in our favour. We have followed up with Rick Moonen and are planning activities in his restaurant in Las Vegas.

While the outcome was positive, this showed how the New Zealand deer industry is vulnerable where we have no industry standards to defend our environmental performance and can only base our defence on our perception of general practice in the industry.

Velvet

Some price stability has been achieved in the last velvet season following measured and responsible selling by industry exporters. This is in spite of a weak Korean won and US dollar and Korean consumers not feeling the rebound in the Korean economy. The struggle to complete a Korean Free Trade Agreement is given a Prime Ministerial push in the right direction and a top Korean media publication features the New Zealand velvet industry.

2009/10 velvet season

Prices have been better this season and that is a welcome step in the right direction. Stronger selling of New Zealand velvet was achieved in the 2010 season in part because many velvet producers supported selling systems that allowed exporters to negotiate supply arrangements, rather than just having to meet the spot market. This is helping the market to absorb New Zealand's velvet production.

The rebound in prices can be credited to the work achieved by our key exporters, including New Zealand Velvet Marketing Ltd (NZVM) and responsible independent buyers. Prices for the 2010/11 season will be influenced by stocks held in New Zealand, China and/or Korea going into next season. In New Zealand, independent buyers, NZVM and farmers have all said that individually they are not holding much stock (if any), which is a positive indicator. It appears that New Zealand's velvet production in the 2009/10 velvet season was in the region of 430 frozen tonnes, down 30 tonnes on the previous season. There is little to indicate that overall velvet production will increase next season in competing countries. Many importers also suggest that there is not a lot of velvet left in Korea coming into next season.

Market conditions

Korean economy

While there is little doubt that the Korean economy has rebounded strongly this year, feedback from Korean importers and marketers of deer velvet say that this is not yet felt "on the street". They comment that the average citizen is still reserved in their spending and has not felt the effects of economic recovery. Rather, it is the larger corporations that are benefiting from any economic growth. Importers hope that economic growth will filter through and consumers' confidence will improve in the ensuing months – before the velvet season begins.

Korean currency

The New Zealand dollar remains at very high levels against the Korean won and if this continues into next season it will not help New Zealand's velvet exports.

Market activity

Korea–New Zealand free trade progress

On 5 July, New Zealand's Prime Minister John Key met with South Korea's President Lee Myung-bak with the bilateral free trade agreement (FTA) progress featuring high on the agenda. Progress had reached an impasse around agriculture and discussions between the two leaders were described by Prime Minister Key as "open, firm and frank". A favourable outcome to the meeting was achieved whereby the two leaders agreed on a

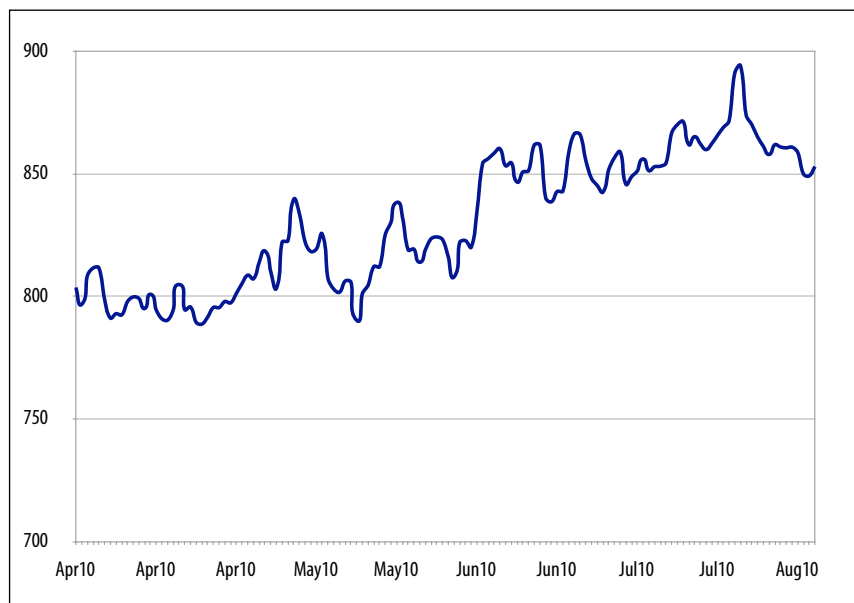


Figure 1: Climb of the NZ dollar against the Korean won since 1 April 2010

process to tackle the stalemate. Korea and New Zealand's Trade Ministers will meet in Seoul around September, accompanied by their negotiators. Prime Minister Key and President Lee will discuss progress later this year, either in Vietnam or Tokyo when they meet again.

Many organisations are in favour of an FTA between Korea and New Zealand. One such organisation is the Association of Korean Oriental Medicine (AKOM), which is keen on a closer relationship between the two industries. They have commented that a Korea–New Zealand FTA would be beneficial in terms of velvet imports but they do want to explore the wider



DINZ Velvet Marketing Services Manager Rhys Griffiths with AKOM's Vice President Lee (left), who sees an FTA between the two countries as beneficial in terms of improved access to velvet.

implications such as education and employment opportunities. For example, they were interested to know whether an oriental medicine degree gained in New Zealand would qualify someone to practice in Korea, where standards might be different. They also saw, however, that there could be benefits in their oriental medicine doctors working in New Zealand.

Marketers getting geared up for the season ahead

Velvet marketers who service oriental medicine doctors and consumers are starting to think about promotional campaigns for the coming season. Many are looking to capitalise on the economic growth rebound and any effects the general population may feel in terms of increased spending on health. One marketer has indicated they are looking to television advertising which may include New Zealand velvet and would be a first of its type in Korea.

Chosun monthly

Deer Industry New Zealand hosted reporter Ms Hyeon Chung from Chosun Newspapers, which has the highest circulation in South Korea and a very good reputation. The Ms Chung travelled to New Zealand to write a feature on Fonterra, Zespri, Comvita and the New Zealand deer industry. During her time with DINZ, she visited Donald and Leigh Whyte's Edendale Station which allowed a first-hand look at extensive New Zealand deer farming operations as well as a significant contrast to the 40°C experienced in Seoul the previous week! She also visited a processing factory and met with two Korean-born Kiwis who are significant velvet exporters. Ms Chung said she left with a very positive feel for the New Zealand deer industry and would reflect this in her article. She is keen to encourage more reporters to profile New Zealand, particularly its outdoor and agricultural related industries, given the current Korea New Zealand FTA discussions.

Chinese "YouTube"

Deer Industry New Zealand posted three promotional clips on Tudou, China's version of YouTube. The video clips promote New Zealand's expansive, clean, green deer farming as well as quality control in the velvet production chain. The clips are translated into Mandarin. To view, see:

- www.tudou.com/programs/view/Ks8m164jA3Y/



Screen image of promotional clip on China's version of YouTube.



Chosun reporter Ms Hyeon Chung, accompanied by DINZ Producer Manager Tony Pearse and owner Donald Whyte, enjoying the beauty of New Zealand at Edendale Station.

UNFEHLBAR ENGLISH RED DEER 5TH ANNUAL ELITE SIRE STAG SALE

On farm, Sunday 9 January 2011, 1 pm



Balmoral (Sold 2007)
5 years, 460 I.O.A., 18 kgs H.A



Woody (Sold 2009)
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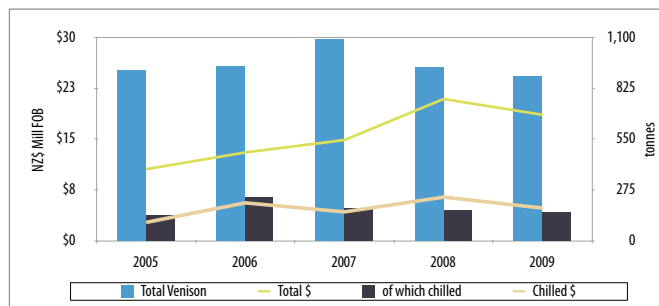
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Market overview: Switzerland

Switzerland eats a good chunk of our venison exports and there's room for the Swiss to take more.

Direct venison exports to Switzerland were worth \$19 million to the New Zealand industry last year, making Switzerland New Zealand's fifth most important market. A country of 7.6 million people with an average GDP per capita of US\$64,000, Switzerland might not be the fastest-growing economy in the world, but it offers superior returns for those companies prepared to enter into dedicated marketing programmes with partners who have access to affluent customers.



Annual venison exports to Switzerland.

Exports to Switzerland have steadily gained in importance over the past few years. While the total volume of venison exports has fallen a little from the peak in 2007, the percentage of exports going to Switzerland has increased from three percent in 2005 to six percent in 2009. Switzerland accounted for seven percent of all the dollars the New Zealand industry earned in 2009.

Swiss customers require chilled venison earlier than their European neighbours, providing an important early-season opportunity for New Zealand exports. The traditional hunting season in Switzerland occurs earlier than in Germany, running from late September through to November, with opening and closing dates set by each canton (semi-sovereign state within Switzerland). Species hunted depend on local by-laws which are dictated by tradition and also by the assessment of damage the animals may be causing to the local environment. Hunting provides an important means of managing wild animal numbers and protecting the fragile alpine environment.

As is the case in other continental European countries, the start of the game season is announced in restaurants across the country and chefs change their menus to reflect the local animals that might be available. Roe deer, wild boar and hare are commonly served, with the influences of German, French and Italian cuisine seen in the different parts of the country where these languages are spoken. A common Germanic-style dish might be roast venison loin served with gravy, spaetzle (small flour dumplings), red cabbage and a red berry sauce.

Switzerland is not a member of the European Union and

is not subject to the Common Agricultural Policy, but it has its own rules and policies to assist farmers and control meat imports. Venison is not subject to import quotas or prohibitive tariffs like most other farmed meats. However, due to the complexity and regulation surrounding the importation of meat into Switzerland, companies importing food are often cooperatives operating on behalf of members representing a particular sector of the distribution chain. This provides a certain stability to the meat trade, with a number of established companies enjoying long-standing relationships with their New Zealand suppliers.

New Zealand venison is imported by groups representing retailers, butchers and food service wholesalers. DINZ does not have the split by sector, but estimates that the retail sector would provide a higher share of sales than most markets.



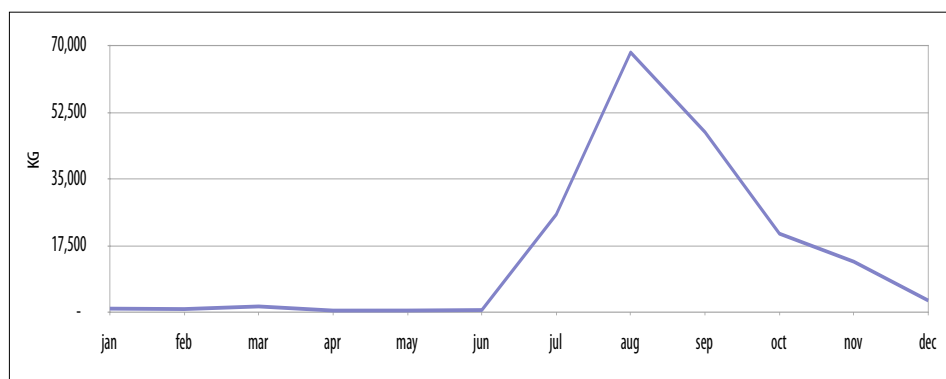
Prepacked venison product available all year round in Switzerland.

As well as supplying the restaurant sector with chilled and frozen venison cuts, New Zealand venison is sold in a variety of forms to supermarket customers in Switzerland. One of the most popular is as small pre-cooked servings, which can be added to other ingredients to create a winter meal. Diced venison or venison strips in sauce are offered as part of a range of similar products through big supermarket chains during the opening of the game season each year. The production of these items can occur throughout the year, providing a valuable market for frozen venison.

Other products on offer are vacuum-packed chilled steaks. These are often sent as whole cuts to Switzerland and then sliced and packed to order for distribution to local stores. Repackaging in the market is cost effective since the centralised butcheries are able to monitor inventory levels



Dried venison – the perfect choice outside the main season.



Average monthly chilled venison exports to Switzerland 2005 – 2009.


more easily than having to guess demand three months in advance in order to ship direct from New Zealand.

By mid November the hunting season is over for another year and restaurants will change their menus to reflect winter dishes – think lots of cheese. Supermarkets will begin offering winter items in the lead-up to Christmas and venison will be largely absent until the beginning of the next game season.

This is clearly demonstrated by the pattern of New Zealand chilled venison exports. Chilled exports reach a very sharp peak in August, before tailing off to next to nothing in December.

Venison marketing companies are talking with customers about how to stretch consumption over a longer period

and individual chefs will continue to offer venison as an occasional speciality. The main off-season consumption would be of dried or smoked venison, prepared in the traditional manner. Much of this will also be derived from New Zealand product and is a particularly good use for cuts from some of the bigger animals.

New Zealand venison marketing companies have formed solid partnerships with Swiss importers and retailers. Products are packed to the specifications of individual customers and delivered on long-range contracts, removing volatility from the supply chain and providing New Zealand producers with more certainty about their future returns. 

Northern Regions Focus Farm: Dave Dewar and Kay Garland, Ngakuru

Final Field Day: 16 September 2010

There is an open invitation to regular and new faces to enjoy the wrap-up field day from this highly successful Focus Farm project, which has featured the central farm at Ngakuru as well as satellite farms over the past three years. This project has yielded plenty of practical information and innovation that can be easily applied on other properties. And there will be some interesting new data revealed on recent trial work at the Focus Farm.

Breeding trial

Three trial mobs of 50 hinds were last year AI mated to three distinct types of sire. Birth dates were synchronised and the progeny have been weighed at regular intervals. The three sires were:

1. Sonny Bill, an Eastern stag with exceptionally high breeding worth for liveweight gain (mated with AI; two Sonny Bill sons used as backup stags)
2. A home-bred Wapiti cross sire
3. A large Wapiti sire.

Results from the trial including reproductive and growth performance will be announced at the field day.

Copper supplementation pilot trial

What is the most effective way to improve copper status? In a small pilot trial, co-facilitator Robin Hopkirk divided 24 weaners into four trial groups of six animals each. Liver biopsies were taken at the start of the trial and at 41 days. The four treatment groups were:

1. Untreated control group
2. Injectable copper supplement
3. Copper bullets
4. Multimin™ supplement.

Although this wasn't a fully fledged science trial, the results – to be announced on 16 September – show some interesting responses.

These new results and plenty more will be discussed at the field day – it'll be well worth the trip!

Date: 16 September
 Start time: 11.00 am (refreshments available)
 Venue: David Dewar and Kay Garland's property, 376 Parsons Road, Ngakuru

For further information:

Robin Hopkirk, 07 348 3839 or 021 540 731

the.vetcave@clear.net.nz or rhobby@xtra.co.nz

Mark Macintosh, phone 07 307 1142 or 027 449 1077

mark.mac@agfirst.co.nz

Top German chef raising quality image of New Zealand venison

Patrik Jaros likes our product, and he wants his fellow Germans to know about it.

A current trend among German top chefs and star chefs to highlight their use of local and regional products is a disadvantage for New Zealand venison, which comes from the other side of the world. For German chefs, venison is an essentially German product, traditionally served in winter with thick sauces, dumplings and red cabbage. In the German perception, the deer itself is a traditional German animal with numerous references in cultural and historical tradition. The New Zealand industry's reliance on the traditional timing and use of venison is a strength. It does provide a stable and good-paying market, but it is also a weakness, where consumers have a preference for local product and the chefs use New Zealand product as a substitute.

To help raise the quality image of New Zealand venison among German chefs, and increase their willingness to pay higher prices, communicating the superior quality and consistency of New Zealand venison is critical and being successfully achieved. New Zealand must improve the quality perception among traditional users, and must also encourage younger, urban chefs to consider New Zealand venison as a modern ingredient suitable for innovative and modern cuisine.

This year, DINZ has engaged the assistance of one of Germany's most respected chefs, Patrik Jaros. Jaros is the recipient of numerous awards and was Germany's youngest ever chef to be awarded a Michelin star. He was awarded third place in the Bocuse D'Or – the equivalent of the world championship for young chefs. Jaros runs several successful restaurants in Germany, has written award-winning books and is also developing electronic media for culinary professionals. He will be featuring in a number of events over the coming year to promote the consistent quality of New Zealand venison to German chefs. He will also feature in several articles in food service magazines to accompany new advertisements the German agency has created to boost recognition of the culinary potential of New Zealand venison.

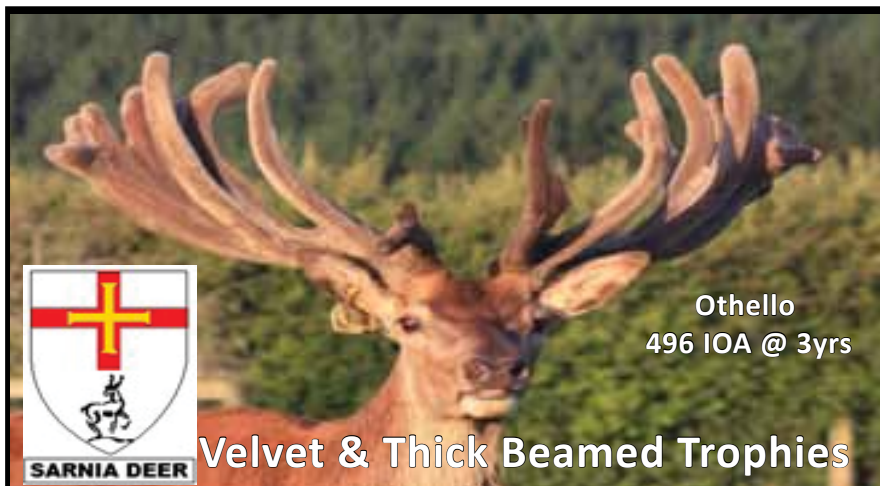


Patrik Jaros: German ambassador for New Zealand venison.

Patrik Jaros about New Zealand Venison:

“Especially in gastronomy, I have to be able to rely on a consistent quality of meat – that’s the certainty Neuseeland Hirsch provides me with, at a price that offers value for money. In this context it is also important that I can calculate a high output in meat per cut. And then, of course, there is this incredible tenderness of the meat that impressed me from the very beginning.”

He is looking forward to working with New Zealand venison and it already features on his restaurant menus. 🇩🇪



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or Bob Dunn 027 494 8716

Breeding for venison production

Jake Chardon, geneticist with Deer Improvement, puts the case for the spread of elite genetic material to improve all aspects of the national deer herd.

No self-respecting velvet or trophy breeder would be prepared to use a sire stag typical of what was available in the 1980s or even the 1990s, yet many venison producers do just that. Why? The evidence of genetic improvement for antler traits is obvious at a glance. By comparison, you cannot assess the value of a venison sire by looking at him. You need data, and preferably data processed into a Breeding Value (BV). Without it, you are flying blind.

Venison producers have a lot in common with sheep, beef and dairy farmers, in that they have little control over what price they are paid for their product. For this reason it is important that they concentrate their effort on what they are able to influence, that is, productivity, the output relative to the input.

Optimising deer farm productivity will demand high performance in both feeding and breeding, but if the experience in other species is anything to go by, genetics will consistently be the biggest contributor to improved performance. To make this a reality in venison production systems, there are several factors that need to come into play. Today, deer farmers can rejoice in the fact that, for the first time, all of the essential elements are in place.

Breeding goals

A breeding goal has several functions. It establishes the long-term direction of breeding programmes for both studs and commercial farmers, it supports culling decisions, and provides a fair means of stock valuation.

Where the primary farming objective is a profitable business, it makes sense for the breeding goal to take the form of an economic index.

For example, in the New Zealand dairy industry, the Breeding Worth (BW) index incorporates the traits with the biggest impact on farm profit. Initially this included milkfat, protein, milk volume, liveweight and longevity, and subsequently fertility (2001) and somatic cell count (2003). This national breeding objective is controlled by a pan-industry body (New Zealand Animal Evaluation Ltd, or NZAEL, of which I am a director) with an industry-good focus, that annually reviews the components and their economic weights.

The BW index has been proven to reflect the contribution of genetics to farm profitability, and it is widely accepted by breeding companies and farmers as their primary breeding goal. Farmers' recognition of the usefulness of BW is reflected in the value of stock. During industry expansionary periods, high BW cows are worth up to \$1,000 more per head. In downturns, high BW stock are the only ones that sell.

About the author

Jake Chardon trained in the United States before taking a lead role in the development of the national dairy cattle breeding programme in his home country of the Netherlands. Following his retirement as CEO of Holland Genetics 10 years ago, Jake was invited to spend a sabbatical in New Zealand with LIC. He enjoyed his stay so much he bought a farm here and breeds sheep in the hills near Cambridge, working part-time for LIC and running the Deer Improvement genetic programme.



Economic indexes for venison production systems

Of course there is also more than one trait of interest to venison producers, and the economic impact of each must be calculated and weighted accordingly in the index. If the methods of farming differ markedly, it makes sense to have indexes specific to each approach.

DINZ contracted Dr Jason Archer of AgResearch, and Dr Peter Amer of AbacusBio (Peter also works on similar projects in the dairy industry) to identify suitable breeding goals for different venison production systems. Their recommendations included formation of three economic indexes which have since been accepted by DEERSelect.

In April 2010, DEERSelect produced rankings based on these goals. They are now available to assist farmers in identifying the genetic material best suited to their production system.

1 Early kill index

This index best reflects the industry goal of "heavier, earlier". It is relevant in situations where daughters are kept as

Table 1: Early kill index top 10 – DEERSelect April 2010

Rank	Current Tag	Sire	W12eBV	MWTeBV	CDeBV	R-EarlyKill	Current Flock Prefix
1	TUSCANY	Luciano	25.5	16.5		13.11	Deer Improvement
2	BREMEN	Kiel	24.4	15.9		12.79	Deer Improvement
3	VOLTAMIR	Kabul	30.5	26.8	-4.2	11.99	Peel Forest Estate
4	COMMODORE	Admiral	23	16	-5.1	11.59	Deer Improvement
5	STALLONE	Carl	20.6	13.3	-4.8	11.42	Deer Improvement
6	CORLEONE	Admiral	22.6	17	-5	11.17	Deer Improvement
7	LUCIANO	Calibur	22	14.6		11.16	Deer Improvement
8	259/06	428/02	21.7	14.8	-3.2	10.9	Landcorp Stuart
9	ATLAS	Maximillian	25.8	22.4	-4.7	10.67	Peel Forest Estate
10	CZAR	Cossar	25.4	21	-4.6	10.54	Deer Improvement

W12: Weight at 12 months
MWT: Mature weight
CD: Conception date

replacement hinds, and the farm is targeting an early kill in spring to achieve schedule premiums. In this situation, growth rate and early conception have a high economic value, with downward pressure on hind size in order to reduce maintenance feed costs.

2 Late kill index

The late kill index also applies in a situation where daughters are kept as replacements, but animals are killed after their first spring season. Growth and early conception have a relatively lower (but still positive) economic value, while less negative pressure is put on mature hind weight.

Arguably, the two most important traits for this system (hind

these traits receive zero rating in the index.

Most deer farmers think of a terminal sire as a wapiti because, for many years, the only option available for improved growth rate from the progeny of traditional red hinds was to use a wapiti stag. Data collected in recent seasons in commercial herds indicates that high BV red stags are fully competitive on growth rate with the typical wapiti terminal sire, so farmers now have an alternative terminal sire. Certainly wapiti will not feature in DEERSelect rankings for the terminal index unless breeders participate in the industry's central database evaluation service.

One of the problems with the wapiti terminal approach is that half of the hinds have to be mated to sires not suited to venison production systems in order to breed replacement females. This represents a huge opportunity cost. By using a high BV red stag, farmers can achieve the wapiti-cross growth rate, but also ensure that all offspring are fast-growing, and the option exists to retain any or all females as improved breeding stock. If the farmer has concerns about breeding hinds becoming too large, they should simply cull the heaviest in spring when they fetch the best prices. Of course this means the system is no longer a terminal system, but the primary objective is ever-improving productivity, not the retention of the status quo.

Another issue for farmers using the terminal system is biosecurity. Buying in animals clearly represents a disease risk and many farmers have been caught out with stag purchases, but the danger is much greater if large numbers of replacement hinds are obtained from a variety of sources.

Table 2: Late kill index top 10 – DEERSelect April 2010

Rank	Current Tag	Sire	W12eBV	MWTeBV	CDeBV	R-LateKill	Current Flock Prefix
1	VOLTAMIR	Kabul	30.5	26.8	-4.2	9.84	Peel Forest Estate
2	TUSCANY	Luciano	25.5	16.5		9.34	Deer Improvement
3	BREMEN	Kiel	24.4	15.9		9.12	Deer Improvement
4	COMMODORE	Admiral	23	16	-5.1	8.36	Deer Improvement
5	CORLEONE	Admiral	22.6	17	-5	8.36	Deer Improvement
6	259/06	428/02	21.7	14.8	-3.2	8.24	Landcorp Stuart
7	ATLAS	Maximillian	25.8	22.4	-4.7	7.88	Peel Forest Estate
8	LUCIANO	Calibur	22	14.6		7.88	Deer Improvement
9	103/06	100/04	16.5	13.5		7.67	Criffel Station
10	CZAR	Cossar	25.4	21	-4.6	7.66	Deer Improvement

W12: Weight at 12 months
 MWT: Mature weight
 CD: Conception date

survival and fertility) do not yet have breeding values. In the meantime, it is ironic that many farmers running late kill systems are using mature hind weight as a proxy for survival and fertility, while mature hind weight receives relatively less emphasis in the late kill index. Until we have BVs for hind survival and fertility, I see limited utility in this index.

3 Terminal index

This index is appropriate when a stag is used as a terminal sire with no daughters kept as replacements. The main economic value is gained from growth rate, whereas daughter conception date and mature hind weight are irrelevant, so

Potential enhancements to the economic indexes

In addition to periodic reviews of the weighting accorded various traits, it can be expected that changing circumstances (eg, payment systems based on carcass traits), availability of new BVs (eg, maternal traits) and accumulated knowledge of economic impacts will result in continual development and adjustment of the indexes to ensure their relevance.

Because venison processors are building systems to quantify carcass value based on the yield of individual cuts, it is likely that carcass traits will be the next addition, and this is already predicted by DEERSelect. Several breeders continue to build datasets based on CT scanning; ultrasound scanning techniques are being refined to enable efficient low-cost screening of large numbers of animals to increase selection intensity. Carcass traits will be relevant to all three indexes, but weighted particularly heavily in the terminal index that currently includes only growth rate (as represented by the 12 Month Weight BV).

As outlined above, fertility and survival can be expected to have an important role in any index attempting to quantify the economically important traits in a system where the maternal line is being developed. I suggest that these traits should be strongly weighted in the late kill Index which is especially applicable in the high country.

Table 3: Terminal index top 10 – DEERSelect April 2010

Rank	Current Tag	Sire	W12eBV	MWTeBV	CDeBV	Terminal	Current Flock Prefix
1	VOLTAMIR	Kabul	30.5	26.8	-4.2	33.96	Peel Forest Estate
2	ATLAS	Maximillian	25.8	22.4	-4.7	28.69	Peel Forest Estate
3	TUSCANY	Luciano	25.5	16.5		28.38	Deer Improvement
4	CZAR	Cossar	25.4	21	-4.6	27.79	Deer Improvement
5	BREMEN	Kiel	24.4	15.9		27.2	Deer Improvement
6	MEGAMILIAN	Maximillian	23.7	24.2	-3.3	26.99	Wilkins Farming
7	SONNY BILL	Maximillian	23.2	24.8	-4.9	26.45	Canterbury Imp Red Deer
8	06168	?	23.3	20.3		25.92	Black Forest Park
9	CORONA	Collossus	23.4	19.3		25.78	Deer Improvement
10	COMMODORE	Admiral	23	16	-5.1	25.52	Deer Improvement

W12: Weight at 12 months
 MWT: Mature weight
 CD: Conception date



Deer Improvement yearling donor hinds.

The importance of genetic diversity

The retention of genetic variation must be a key objective of any breeding programme. The alternative is a negative impact on genetic gain as well as the negative effects of inbreeding which usually shows up in fertility and survival.

The incorporation of additional traits into the indexes will further highlight the importance of genetic diversity as the industry seeks bloodlines combining the best of each trait.

In a small industry such as venison production, it is in the interests of all breeders to trade genetic material. The potential of genetic gain cannot be achieved if all breeders do not have access to the best genes. There is also another major advantage in the reliability of evaluations. With individual sires assessed via multi-herd progeny tests (using AI), not only are the genetic influences better exposed, the links between herds are much stronger and so the relative performance of animals is more accurately calculated.

In the dairy industry, the official NZAEL sire list is known as the ranking of active sires (RAS) list. An “active” sire is one that has semen (minimum of 500 straws) available. (If the genetic material is not available to breeders and farmers, it may as well not exist.) This encourages honesty and transparency because any high-ranking sire will be in demand and the resulting progeny in multiple herds will ensure a reliable proof.

Another initiative proposed by AgResearch involves setting up a central progeny test. Jason Archer describes the advantages in June/July 2010 issue of *Deer Industry News*. In my opinion, we should also use this independent progeny


test to double check the breeding values from any high-ranking sires. There are two reasons to do this. In the first place, it increases the genetic links between the top stags but more importantly it enhances the credibility of the whole DEERSelect system. Deer Improvement strongly supports this approach, and the suggestion that it be established in a high country system to accurately reflect the environment in which an increasing proportion of our venison producers are farming.

Deer farm productivity cannot be optimised unless thousands of farmers are aware of the tools available, and the most effective methods to utilise them. In order to capitalise on the valuable work done by DEERSelect and the participating breeders, there must be a process of market education.

Gene dissemination

Multi-trait breeding goals will heighten demand for the few sires with the most valuable trait combinations.

The existence of elite genetic material is of little value to the industry unless it is efficiently and effectively disseminated across many herds. Artificial insemination (AI) is now proven to provide a vehicle for a relatively small number of multipliers to generate the sire stags required to breed replacement hinds for the national herd.

More than 30 years after the establishment of the venison production industry in New Zealand, all of the vital elements are in place to enable farmers to capture the value of permanent and cumulative genetic gain. Not only is this cause for celebration, but in the face of competition from other land uses, it is essential to the future of deer farming. 

Applying gene technology to the deer industry

We all know there is tremendous potential for genetic improvement in such a young industry as deer farming. Spectacular gains have already been made in traits such as antler growth and liveweight gains in the first 12 months. The technology is there to deliver much more, but there are challenges. Geoff Nicoll, head of Landcorp's Genetics and Nutrition Unit, discussed the application of gene technologies when he spoke to the New Zealand Veterinary Association Deer Branch at their Cervetec 2010 conference in Queenstown in June.

He began by reviewing the techniques and technologies currently used. DNA parentage testing is widely used and helps increase the accuracy of estimates of genetic merit. It gives farmers management flexibility with mating and reduces stress from recording details at birth.

Genotyping to accurately measure levels of hybridisation between wapiti and red deer within herds had also been widely used, Nicoll said. It was not so common now, presumably because breeders and producers had stabilised the proportions of red and wapiti genes desired in their herds.

A desire to improve the accuracy of estimating genetic merit had increased the focus on molecular genetics, he explained. Single genes (such as the Inverdale gene in sheep) had proven to have major effects on production traits like fertility.

Another tool at the molecular level was identification of chromosomal regions, flanked by marker genes, that affected productive traits. These are known as quantitative trait loci or QTL.

Commercial tests have been developed for these markers or QTL – for example the LoinMax™ test for traits affecting rib eye muscle dimensions in sheep. Because these tests are not for the actual gene, there was a possibility of false positive or false negative results. Nonetheless, QTL have been identified in deer for liveweight, pubertal and seasonality traits, with no further work having been done on these.

Nicoll said QTL did not always explain genetic variation for a trait and even if identified and found to be associated with an economic gain, it may not be necessarily possible to incorporate selection based on the trait into a production system.

Whole genome selection uses thousands of “mini-markers” or single nucleotide polymorphisms (SNPs) that can be used, along with phenotypic records (how genes are expressed), to predict a “genomic breeding value”, Nicoll said.

“Opportunities exist for whole genome selection in the deer industry in traits such as carcass quality, disease resistance, reproductive seasonality and survival.”

The key to using genomic technology lay in the value it could create for the deer industry.

“Is genetic merit at a given point in time the key driver of value, or is it the rate of genetic improvement? We have the confusing situation where we have a nationally available data collection and breeding value estimation service, comparatively small quantities of semen of variable genetic merit available from a few AI services and many predominantly small sire breeders with a short-term perspective in their selection decisions.”

Nicoll said investment in genomics would most likely be restricted to larger breeders because their businesses focus on a profit-oriented breeding objective and disciplined selection.

He warned that incorporating too many traits into a breeding programme could restrict its economic value. If the only traits pursued are the “easy” ones such as liveweight or antler traits, then genomics wouldn't have much of a role. But the technology will come to the fore if selecting for “difficult” traits such as meat quality or disease resistance.

Looking further ahead, Nicoll said the industry was becoming better geared to exploit whole genome selection. After the development of a “SNP chip” for deer, the next step was to correlate performance records of 2,000 or more animals with their DNA SNP profiles.

Once the relationship between genetic markers and traits was established, whole genome selection could be practised without the need for performance records, dramatically increasing the population to which the technology could be applied.

Nicoll said elite breeders were likely to select on a very broad range of markers an expensive proposition. The “multipliers” who buy elite sires to produce sires that supply commercial herds would be likely to use fewer SNPs and perhaps limit the technology to dam selection. Producers would use lower-cost technology again, perhaps limiting selection to animal health or product quality traits.


He said AI would be essential for the industry to benefit from whole genome selection “because it offers the most effective means to disseminate improved genetic merit widely (probably in association with successful sexed semen developments).”

AI would also have a role in producers' herds to either produce sons as sires in their herds, or directly to produce revenue animals.

In conclusion Nicoll noted that the small size of the deer industry and the limited availability of phenotypic information might restrict developments because of comparatively high costs. He said the establishment of farming corporates or cooperatives of breeders, producers and processors could be used to capture a market margin that flows back to breeders that invest in whole genome selection.

Comprehensive electronic data storage, analysis and transfer of information was required to facilitate this. “Technology is the tool, but information is the key.”

Reference

Nicoll GB, Applied gene technology, Proceedings of NZVA Deer Branch Conference, 2010 (pub. pending). 

New technology on the farm: Avoid or embrace?

The spread of dairy farming was described by one speaker as a “black and white plague” at the 2010 deer industry conference in Napier. And while it’s true that dairying competes with deer farming for good finishing land in some regions, Southland veterinarian Kim Kelly argues that deer farming has much to learn from its bovine competitors when it comes to the smart application of new technology. The following article is adapted from her innovative, refreshing and well-received presentation to the New Zealand Veterinary Association’s Deer Branch at its Cervetec 2010 conference in Queenstown earlier this year.

Vets use emails, mobile internet and PDAs to organise their day, rather than the traditional day book and pencil and obtain information from farmers to analyse health issues electronically without having to even visit the farm.

The advances in technology available to veterinarians and farmers now allow a huge amount of information to be gathered and transferred easily. This also allows time-consuming drafting, recording and analysis of information on farm to occur at the simple click of a button. We have seen the dairy industry embrace these ideas. Cows can have their production, feed intake, health, weight and behaviour checked daily and can be drafted from the herd to be examined by a vet if any of these parameters change or cause concern – without the farmer even seeing the cow!

Here’s a recent personal example. As I drive to the clinic I use my Bluetooth hands-free system to call a farmer on his mobile and discuss his lab results. I had received the results on my mobile this morning at 6am while I was browsing the electronic version of the *Southland Times*. A beep while I am driving indicates a text from a dairy client to tell me his latest herd test results have been emailed to the clinic and will beat me there. On arriving at the clinic I notice on my computer that my 9am call has moved, allowing me time to look on the SciQuest (veterinary database) website regarding an unusual case I had seen in a deer the day before. I also log on to the Veterinary Information Network small animal website and notice that the question we posted has been answered overnight by two vets in America. The receptionist walks away from her computer to order products electronically via her Palm Pilot, ensuring they arrive the next day.

Gone are the James Herriot days of staying by the phone at home when on call. And these changes have happened in only 20 years. What might change in the next 20? I’d like to illustrate ways that technology has and will change our lives and those of our farmers. At present the majority of farm technology is dairy-based, but the deer industry, with the addition of electronic ID (EID), may be able to use this to make information gathering and analysis easier.

Dairy systems

Readers familiar with dairy farming systems may be familiar with *MINDA™*, the LIC herd-management software that allows farmers to input all herd records, treatments and production parameters. Some farmers use this more than others, with the best and most active farmers able to tell us at the drop of the hat who is within the top 10 percent of producers and who has had two cases of mastitis this season. Our vets can access this data and analyse it to assemble proposed cull lists or find patterns in somatic cell count results and so on.

Further integration of this technology with the advent of EID



This automated feeder used for calf rearing measures out portions tailored to the individual calf, triggered by the EID worn by each animal. The deer industry could also use EID as a basis for smart technologies to improve productivity, says Kim Kelly.

tags has allowed cows to be fed differentially so that the best producers get more meal than those that produce less. Using *Protrack™*, cows’ records are available in the milking shed and cows can be automatically drafted from the herd. This allows the farmer to input criteria for drafting without having to be present at milking when this occurs.

Pasture monitoring and growth is an important part of the grazing management of dairy cows, but this could cross over to deer farmers. *FarmKeeper™* is a new software system that allows GPS coordinates of paddocks and pasture covers to be analysed to accurately assess the area needed to graze each day to meet requirements.

New technologies support genetic improvement in several ways. Improved recording and monitoring allow us to keep better records of progeny and the parameters we are aiming for, such as milk yield and early return to service after calving. There is also technology that allows us to detect pregnancies earlier (as soon as 30 days) and drugs to prescribe to manipulate breeding cycles. And finally, there is the use of artificial insemination and embryo transfers to ensure we breed better animals quicker. This is one example of technology that is already used in the deer industry.

The deer industry

With the EID/RFID and NAIT system becoming mandatory in the near future, it is likely that deer farmers will be able to integrate some of the dairy-based technologies into their systems.

When weaners are tagged and weighed, this could be recorded electronically and from then on each weight gain would be available. Should weight decrease, a drafting

system could be triggered to alert the farmer to perhaps discuss it with his or her vet. This would allow three-way drafting, with mobs of weaners not all needing to come into the shed each time and accurate growth rates and predicted slaughter dates calculated. If any animal health treatments are recorded, deer could be scanned pre-transport to slaughter and any individuals within withholding periods removed from the mob automatically.

Hinds with EID tags could be drafted into mating mobs easily and those with single sire mating groups instantly compared for pregnancy rates at scanning. DNA sampling could be used to keep a closer eye on pedigree bloodlines and their performance. This could all be available “animal side” if the farmer had hardware such as a Palm Pilot or Toughbook on hand.

I have already seen cases of farmers who programmed their velvet scales to show historical information, whereby it is set up to show each stag’s change in velvet production from one year to the next. This involves reading tags manually and still carries the risk of human error – something that is avoided with EIDs. This could be taken a step further and allow stags to be automatically drafted according to button drop into small groups which are able to be yarded only as required. Simply programming the week antler buttons cast into your PDA while checking the stags would allow this to occur later on.

In the case of Tb testing, we already have the Disease Management Information System (DMIS) website, which allows vets to look up testing histories for properties – this could be taken further with permanent lifetime EIDs and software allowing farmers and vets to accurately check


whether all animals are present and avoid movement of high-risk animals into low-risk areas.

Genetic improvement within the deer industry has been huge. The use of artificial insemination and embryo transfers has been occurring for a long time. However, only a small proportion of our farmers use this as a way of improving genetic gain quickly.

The future

Several of the specific parameters measured in dairy cows are not applicable to deer – unless we start milking them!

The integration of new technologies into farming, and in turn the veterinarian’s world, will help increase productivity, efficiency and performance while hopefully minimising time spent on practical tasks.

Who knows what will happen in another 20 years? Maybe when investigating an outbreak of disease we will be able to look on our GPS unit to calculate the animals that have been in close contact with the sick one, then look up its drenching and weight-gain history and parentage, all without leaving our office. Sceptics will say this is a bad thing, but is it? The last 20 years would indicate otherwise... 

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Funding boosts Tb research

Bovine tuberculosis (Tb) research has received a boost with the award of a grant of \$750,000 per annum for five years to AgResearch’s Tb Immunology and Animal Health team from the Foundation for Research, Science and Technology.

The team, led by Dr Bryce Buddle, has been working on developing a vaccine for Tb in cattle that is effective, economical and compatible with current Tb testing methods. Dr Buddle says a commercial spin-off from the team’s research will be the potential for novel vaccines and diagnostic tests to be manufactured and sold to overseas markets, although this is a few years away. This new funding will enable the team to build on the breakthroughs that have been made to date and create biotechnological tools to protect cattle and deer against Tb infection.

Dr Buddle says these tools will include vaccines to protect cattle against bovine Tb, a new skin test for cattle that will reduce the incidence of false positive results and an investigation of diagnosing bovine Tb from pooled milk samples using an antibody test.


“The prospects for a vaccine to better control and reduce levels of bovine Tb are encouraging,” says Dr Buddle.

“New and low cost strategies are needed to control bovine Tb if the Government hopes to meet its National Bovine Tuberculosis Pest Management Strategy Amendment targets and reduce the area where bovine Tb is endemic in wildlife from 40 percent to 30 percent of the country.

“This funding will allow the team to pursue the development of low-cost strategies that will provide early detection and reduce the need for skin testing in vector-free areas.

“If successful, a test based on bulk milk sampling will also reduce the need for frequent herd skin testing, resulting in cost and time savings as well as reducing the likelihood of serious disease outbreaks,” says Dr Buddle.

In high-risk Tb areas, particularly where there are large numbers of possums, the AgResearch team is working on a sophisticated two-pronged strategy against infection. This will include assessing the efficacy of the human Tb vaccine, BCG, for cattle coupled with a novel differential skin test while at the same time developing a Tb protein vaccine which does not induce a positive reaction in the caudal fold skin test.

“Our previous research has already shown that a Tb protein vaccine combined with the BCG vaccine provides superior protection against Tb. However, any vaccine we develop will have to be acceptable to export markets and not affect meat quality.” 

Solis Norton: New JML Project Manager

The new project manager for Johne's Management Ltd (JML) introduces himself and his hopes for positive future developments.

Last June, I accepted the role of Project Manager for Johne's Management Limited from my friend and colleague Dr Jaimie Hunnam. So far, I've simply been learning about JML and its activities and as I go I realise how lucky I am to be able to put the labours of my PhD, studying the epidemiology of Johne's disease on New Zealand dairy farms, to such good use.

While I will regularly contribute to *Deer Industry News*, building on Jaimie's valuable progress in raising the awareness of Johne's disease, I will use this first column to give the deer industry some background on the new JML Project Manager.


I grew up a Dunedin kid who spent every second he could muster on the family sheep and beef farm in the King Country near Piopio. An Agricultural Science degree at Massey naturally followed. After a year shepherding, I completed a Masters studying tuberculous possums in the Wairarapa scrub near Castlepoint and following that, I took on a PhD at the EpiCentre, Massey University, studying Johne's disease on New Zealand dairy farms. Over five years I met people the world over dedicated to understanding and combating this disease and I studied data from hundreds of New Zealand dairy farms, analysing, modelling, pontificating, hypothesising and generally



ruminating on the most effective way to control it. I am now eager to shift my focus from dairy to deer and to put my shoulder to the JML wheel to develop methods to control Johne's in deer that match or better any other such programmes in the world.

Four vital components for success are already in our favour. First are the deer farmers, a comparatively small but exceptionally enthusiastic and dedicated group. Second, we have virtually perfect slaughter data capture with the invaluable assistance of the AsureQuality team, the commitment of the processing community and the analytical power of the JML database. Third, we have a nationwide network of Johne's specialist veterinarians. And fourth, we have an active

research community with great depth and youthful, fresh-thinking vigour.

It is with much anticipation that I look forward to working with the deer industry to help develop ways and means for controlling this disease, to optimise returns and minimise stress to farmers, to safeguard export market access and to ensure top levels of animal health that will keep New Zealand deer farming at the cutting edge of the world's agricultural production systems and innovation. 

Roaring mad about Johne's disease in your deer?



So are we!

And we'll pay \$250* towards Johne's disease control in your deer herd to prove it!

This offer ends December 31, 2010 so be in quick

* Rebate on initial consultation by a JML-trained advisor



**Call your nearest advisor
or JML on 0800 456 453**

Study confirms genetic link to Johne's disease resistance

Preliminary results from a longitudinal study led by Colin Mackintosh, AgResearch Invermay, and funded by the Johne's Disease Research Consortium (JDRC), have indicated that resistance or susceptibility to Johne's disease appears to be highly heritable. The results were presented to at the New Zealand Veterinary Association Deer Branch's Cervetec 2010 conference in Queenstown in early June.

As well as noting the strong genetic link to heritability, the study showed that at least one of the animals, sired by a Johne's-resistant stag, appeared to have completely cured itself of mild Johne's disease-related lesions within nine months of becoming infected with the disease.

The study was designed to isolate the impact of the sires' genotype, by controlling husbandry-related variables. The deer studied were of the same age, born into the same mob, run together and given the same animal health treatments. At four months of age, they were challenged with the bacteria that cause Johne's disease – *Mycobacterium avium* subspecies *paratuberculosis* (MAP).

The JDRC study has followed a collaboration between the Otago University Disease Research Laboratory and the Peel Forest Estate deer stud, where the stud's extensive records for its bloodlines has allowed researchers to identify animals thought to have a high level of heritability for resistance (R) or susceptibility (S) to natural MAP challenge. The stags are identified as R or S on the basis of their offspring's response to natural challenge from the disease.

Semen from two Peel Forest-bred red stags, one R and one S stag, were used to artificially inseminate 24 randomly selected red hinds. The hinds were from a property with no history of clinical Johne's disease which had all tested negative for the disease. Eighteen calves were sired, nine from each stag. There was also a wapiti-cross calf, sired by a chaser stag. The offspring were run together and, at four months of age, challenged with an oral dose of the virulent bovine strain of MAP.

Throughout the 49-week trial, the animals were grazed together and lymph node biopsies taken at four and 13 weeks following the disease challenge. Histopathology of these samples, and a range of other diagnostic techniques, were used to assess their response to the disease challenge.

Five animals died during the trial. One died following biopsy surgery and the other four animals were euthanised after developing clinical cases of Johne's disease between 18–25 weeks after disease challenge. Two of these were S animals, one R and the last the wapiti-cross. The animals showed typical signs of the disease, such as rapid weight loss and scouring.

At week four of the study, two S animals had mild lesions detectable in their lymph nodes. By week 13, all 18 animals on the trial had lesions, ranging from mild to severe.

By week 49, when all of the remaining animals were slaughtered, the disease pattern was distinct, with animals falling into two groups: eight animals (seven R and one S) with no, or very mild disease and six animals (one R and five S) with severe disease. The results are preliminary but strongly suggest that the genetic impact on disease resistance

or susceptibility was showing, with the stag R or S status dominating the disease outcome for the offspring. It was noted that each sire had offspring with disease outcomes at the opposite end of the spectrum with the R sire having two severely affected offspring, and the S sire one offspring that was only mildly affected by the disease. These "outliers" were not unexpected as the stags were bred across randomly selected hinds with unknown Johne's resistance status.

The authors said the only common variable not controlled was gender of the offspring, but that had no significant effect on the outcome.

It was noteworthy that as well as one R animal appearing to have completely self "cured", almost all the R offspring showed a lower lesion score at slaughter than at week 13 of the trial. This indicated that "cure" was occurring at varying degrees across all the mildly affected R offspring.

There seemed to be a strong relationship between low antibody response and resistance to the disease, with four of the R animals remaining Paralisa™ negative throughout.

The authors noted that this strong genetic impact on Johne's resistance would be harder to see on a commercial farm and outside the setting of a controlled trial, because other factors such as timing and degree of challenge would come into play. But there appears to be little doubt that resistance to this devastating disease is likely to be highly heritable, which should be of great excitement to the industry.

Lymph nodes collected during the study are being used in further investigations of gene expression to determine the underlying genetic basis for Johne's disease resistance and susceptibility.

Reference

C Mackintosh, B Tolentino, G de Lisle, G Clark, S Liggett, F Griffin (2010) Longitudinal study of resistant or susceptible red deer to challenge with *Mycobacterium avium* subspecies *paratuberculosis* – preliminary results. Proceedings of NZVA Deer Branch Conference, 2010 (pub. pending).

Position wanted

Experienced deer farm worker with a recent Wildlife Manager Degree looking for a permanent (min 40 hours/week) position in whole New Zealand area. Five years of study and seven years of work experience guarantees that you won't be disappointed. For a detailed CV and cover letter please contact Bence Richter on bence.richter@gmail.com. Applicant can fill the position earliest from October–November this year.

Johne's Disease Research Consortium:

Promising progress with deer research

Researchers in the Johne's Disease Research Consortium (JDRC) are making steady progress in their quest to provide a better understanding of the effects of Johne's disease in New Zealand.

The consortium was established in 2008 to develop practical tools for the management and control of Johne's disease and is a partnership formed between the Deer Industry New Zealand, DairyNZ, Beef + Lamb NZ (formerly Meat and Wool NZ) and researchers from AgResearch Limited, Massey University, Livestock Improvement Corporation and the University of Otago. The Consortium receives Government funding from the Foundation for Research Science and Technology, matching industry investment dollar for dollar.

In deer, the onset of clinical disease – chronic diarrhoea and wasting – is known to be rapid compared to other ruminants, manifesting in yearlings or weaners. Cattle and sheep rarely display clinical signs before 2–6 years of age. This early onset makes deer an ideal model system to study the disease.

Colin Mackintosh, a leading scientist from AgResearch at Invermay, is a recognised expert in the study of Johne's disease in deer. In his work with the consortium Colin has been exposing deer to the causative bacterium, *Mycobacterium avium* subspecies *paratuberculosis* or MAP, and studying the effects.

In a study jointly funded by JDRC, DEEResearch and the Foundation for Research Science and Technology, Colin has established that deer show an age-related resistance to Johne's disease. Three age classes of red deer (weaners, yearlings and adults) given oral doses of the bacteria were monitored for 50 weeks before slaughter. While almost all of the animals became infected with the bacteria, the younger animals were far more likely to progress to subclinical and clinical disease than the adults. This demonstrated that


older animals are more resistant to the disease than younger animals. Results from this trial were published last month in the international journal *Veterinary Microbiology*.

Colin's work shows the value of taking practical steps to minimise the exposure of young deer to MAP and thus help control the spread of Johne's disease on farm.

The goal of Colin's current study is to identify genes associated with resistance and susceptibility to Johne's disease (see page 22 for more on this research). Colin notes that there is "good evidence to support the theory of genetic resistance to MAP in ruminants", which is demonstrated by early findings in this study.

DNA collected from the animals is now being analysed to look for markers that may help identify traits for resistance. Results from this fundamental study are still a way off, but have the potential to assist in the development of leading-edge diagnostic technologies and breeding information for farmers wishing to better manage Johne's disease.

Colin's studies form an important part of the Johne's Disease Research Consortium's project portfolio, which aims to provide cost-effective tools to reduce the impact of Johne's disease in New Zealand.

Johne's is a complex disease and there are no simple solutions. However, through the combined resources of New Zealand's major industry associations and research organisations, the consortium is well placed to ensure that New Zealand remains at the forefront of developments in the fight against Johne's disease. 

■ **For further information:** www.jdrc.co.nz

Show us the value, Taylor urges

NZDFA Executive Committee Chairman Bill Taylor says it is a shame that he was one of only three deer farmers responding to the invitation to attend a field day during the *Cervetec 2010* conference. Held in Queenstown in early June, the rebranded annual conference was hosted by the Deer Branch of the New Zealand Veterinary Association, targeted at veterinarians and the research and extension community, but with a welcome invitation to deer farmers. (There is coverage from presenters at the conference on pages 15, 18, 19 and 22 of this issue of *Deer Industry News*.)

Bill says the organisers should be thanked for putting together an informative, interactive and useful conference, but his praise was tempered with a warning to deer vets that they must demonstrate the value they provide if they want to justify the fees they charge. He says that while a vet's specialised skill is clearly needed for procedures such as liver biopsies, paying high hourly fees for routine tasks like

pregnancy or Tb testing is not such an attractive proposition. High mileage charges and a flat farm visit fee in addition to the hourly charge rate can be over the top, he says, adding that many farmers are now using private contractors rather than their veterinary practice of choice for some jobs that don't require a veterinarian.

"Because of these high fees for routine jobs, farmers feel less inclined to use their vets as advisers, and are consequently missing out on knowledge and expertise that is an integral part of a successful client–vet relationship."

While acknowledging the importance of farm visits to maintain the relationship between the farmer and vet, and to help the vet keep tabs on herd health and risks to productivity, Bill maintains that it is up to the veterinary practice to show what value is derived from the fees charged and the potential of that relationship.



NZDFA Branch Chairman profile: Richard Burdon – Otago

Keeping it in the family and making it pay – on several different levels. That's the approach for a thriving business taken by new Otago NZDFA Branch Chairman, Richard Burdon.

Summing up Glen Dene station, nestled between Lakes Hawea and Wanaka in a stunning part of Otago, requires just one word: “diversification”. The 6,000 hectare high-country farm is actually half of what Richard Burdon’s grandfather bought, as Mt Burke Station, back in 1929. The station was divided in 1979, and Richard’s parents built a new homestead and developed the new station practically from scratch. Richard took over with his wife Sarah in 2003; they’ve since been joined by two kids, Georgie and Charlie.

Richard calls the station, which is in a good rainfall zone, netting around 900mm a year, “an ideal deer farming property. It fits the growth curve extremely well for deer.” Deer farming started there during the 1970s, the herd based on Glen Dene’s own wild deer.

The farming operation by itself is diverse: alongside the nearly 2,000 deer are around 5,000 sheep, and 150 cattle. The Burdons grow barley and lucerne, produce their own silage, and there’s an extensive irrigation system on the main property and leased sections. There are ongoing plans to clear some 2,000 hectares of bracken and plant it to grass – a project expected to take about 10 years.

Their long view was recognised in 2008, when the Burdons were supreme winners of the Otago Ballance Farm Environment Awards. Judges said the Burdon family’s mission statement – to maintain control and management of the land with continual improvement of the soil, water, vegetation and saleable commodities, showing profitable returns and successful business management – is clearly reflected in the day-to-day management of their property.

Moving into tourism has increased profitability, and adding hunting and fishing – the station’s wild deer, tahr, chamois and boar are joined by trophy stags from the farm – has been a particular success. “Hunting is probably the fastest-growing part of our business. It provides wonderful tourism opportunities because it works in the quieter months of the year – March to May – when most tourists have traditionally not visited New Zealand. And it fills a gap in our farming operation which works extremely well at that time of year.”

But the deer side of the business is also healthy, with venison and velvet part of the equation. Velvet stags are eventually presented as trophy animals. “We select stags and velvet them to around age seven and then select trophy stags from that group.”

Genetics has taken a lot of Richard’s attention recently. “We’ve been doing an AI programme, with Clive Jermy. That’s been extremely exciting, seeing



Richard Burdon: Trophy business just part of a diversified range of activities at Glen Dene Station.

the results of the new genetics coming through with the spikers. There are not many industries that have the genetic horsepower offered by the deer industry and New Zealand deer farmers have been very innovative. Semen’s now cost-effective, providing deer farmers with opportunities to improve their venison, velvet or trophy genetics.”

The Burdons run a straight red deer operation, and they breed and finish on the property. But: “We have a strong demand for our surplus mixed age and rising 2 year hinds because they adapt well to down-country operations. The down-country guys put our hinds to their terminal stags and finish all the progeny.”

Until May last year, Richard was Federated Farmers Otago provincial president. “I was hoping to take a step back but I was approached to become NZDFA Branch Chairman. The position offers me an

opportunity to upgrade my skills a wee bit within the deer industry so the timing’s been pretty good. I’ve still got a lot to learn about deer!”

The Branch covers quite a large area – from Dunedin up to the Wanaka area where Glen Dene is located, with a wide variety of terrains and ecosystems. Despite the distances “it’s a good strong Branch” with around 200 members. Richard does note that, like all areas, there’s been a bit of a decline. “But Otago has potential for growth. We need to spend some time tracking data and gathering more information and that’s something we’ve discussed.”

Animal health issues are of particular concern to the Otago Branch. “Since I started in June, we’ve been working with the Animal Health Board on improving its communication to



Trophy stags are selected from the velvetting herd at Glen Dene.

Field day with a DIFFerence Last hurrah at *The Steyning*

The features that impressed the judges of the recent NZDFA Environmental and Sustainability Award won with Distinction by Tim Aitken and Lucy Robertshawe will be a highlight of the final Focus Farm field day to be held at The Steyning on 15 September.

This field day marks the end of a highly successful three-year term for Tim and Lucy, a term marked by visionary thinking, sound science, risks taken, lessons learned, two prestigious awards, a big improvement in economic and environmental performance and – most importantly – a wealth of practical information that others are now applying to their own operations.

In addition to the environmental award, discussions at the September field day will feature:

- the latest scanning data, with an interesting twist on yearling hind mating
- Professor Frank Griffin and his able colleague Simon Liggett, updating the (thus far) successful Johne's disease control programme
- a practical look at leptospirosis in deer at the farm level.

Field days at *The Steyning* have been consistently well attended, with 85–120+ attending each event. We owe



Visitors to a field day at *The Steyning* earlier this year.

that both to the committed locals and to the carloads of enthusiastic visitors who come from far away.

To celebrate the wind-up of a successful programme we have significant cash sponsorship for an after-match function at the Tikokino Hotel, to recognise the strong support and thank all the attending farmers.

Details are as follows:

Date:	15 September
Time:	10.30 am (smoko on hand for earlier arrivals from before 10.00)
Venue:	Field day starts at <i>The Steyning</i> , Makaroro Road, Tikokino (note this is a change from earlier field days, which started at the hall).
Further information/ directions:	Richard Hilson, 027 275 3943 or Tim and Lucy 06 856 5522 or 0274 724 587



Lucy Robertshawe and Tim Aitken: their energy and vision has been an inspiration to other farmers.

Continued from page 24

deer farmers. There are a few concerns about where that's going and we just want to make sure that the AHB and deer farmers are on the same page."

Those concerns mainly centre around Tb testing. "The issue is the type of testing that's offered to farmers when they get non-specific reactions within a herd, because there is a close correlation between Johne's and Tb. We want to make sure a farmer's Tb test status is recognised and kept up to date."

Apart from keeping communication flowing with the AHB, the Otago Branch is also working to keep on top of Johne's Disease and leptospirosis – the latter especially because of the risk presented to those working in the industry.

Discussions and meetings in person are tricky, given the size of the Branch's catchment, but members still stay in touch. "There's no point spending the time and money travelling all around the country just to meet for two hours when a lot of

it can be done through teleconferencing or emails."

But "we're eager to get some on-farm discussions happening." There are no Deer Industry Focus Farms in Otago, but Branch members are keen on the concept and "we're certainly, as an organisation, interested in on-farm productivity". And members want to work together. "One of the key bits of feedback from the beginning is that farmers want to find better ways of doing things. The industry is now maturing and most of our systems are in place for good handling facilities and so on, but I feel there is some fine-tuning to be done with the marketing of velvet."

Venison marketing, though, is going well: "We work very closely with processors and we're very impressed by some of the new market initiatives for venison. This has moved a lot of the pressure away and we're getting a more balanced schedule, and a more stable market, which is fantastic." 📺

Turning the situation around: Fighting Johne's provides commercial advantage

■ by *Graham Carr, Peel Forest Estate*

Peel Forest Estate has made a substantial financial commitment in turning its misfortune at the beginning of the decade into a powerful tool for the industry in its fight to reduce the losses associated with Johne's disease.

Together with the Microbiology Department of the University of Otago, Peel Forest sees the long-term way forward to combat Johne's is through genetics rather than vaccine development. In the interim, though, a combination of both could well be the answer.

Peel Forest Estate has become an ideal environment for Professor Frank Griffin and his laboratory manager Simon Liggett, together with Colin Mackintosh from AgResearch Invermay, to identify resilient (R) and susceptible (S) animals and assess the heritability of disease resistance. Research by the University of Otago group has allowed Peel Forest Estate to begin to establish breeding values (BVs) for resilience for all the animals on the property.

Peel Forest Estate has proven to be very suitable for such a research partnership because:

- the disease has been present for a number of years and therefore the animals were continually being challenged
- the stud has excellent pedigree records going back many years, with high accuracy due to extensive DNA analysis
- it has comprehensive records of deaths and the causes
- it has a wide range of pure and crossbred lines, helping to analyse the relationship between breed and Johne's disease resistance or susceptibility

- it has individual deer with exceptional growth rate and antler conformation
- it has the capacity to take the many thousands of blood samples needed by the lab and to manage the small groups of deer that are of interest to researchers.

A picture is emerging of what bloodlines and individuals are more resilient or more susceptible. This has assisted Peel Forest Estate to provide semen for Colin Mackintosh's heritability trial, where stags selected for either an R or S trait produced progeny with the same characteristic, showing that either trait is highly heritable. (See page 22.)

As Peel Forest Estate continues to provide samples from its herd to the lab, the accuracy of the data increases, providing more certainty when selecting sires for future programmes to produce Johne's-resilient breeding stags and hinds for the industry.

Peel Forest Estate is a leading stud and has, within the herd, both the number one and number two in the country, Voltamir and Atlas respectively, identified by DEERSelect for 12-month weight BV. To encapsulate these growth rate genetics on top of resilience traits represents a new way forward for the stud industry.



The environmental improvement is easy to see just two months after this creek was repaired and double fenced.

Atlas, with a BV for 12 month growth of 25.8, has been number one for the last three years but in the latest data from DEERSelect, another Peel Forest Estate stag, Voltamir, has leapt to the top of the ratings with a phenomenal BV of 30.5, 5kg heavier than any other stag in the DEERSelect programme.

With this depth of genetics for the industry and the information they are gathering on Johne's disease resilience, Peel Forest Estate is very excited about multiple trait selection in the future.

Environmental programme

The Peel Forest Estate property had not been cared for as well as it should have been in the past, and running in parallel with this work has been an extensive environmental improvement programme. Bearing in mind the damage to creeks and water quality, and the risks of contamination from the bacteria that cause Johne's disease, Peel Forest Estate set about protecting its waterways: double fencing, and repairing and diverting creeks where appropriate. This extremely successful, though expensive, project has been recognised by two environmental awards: the 2010 Ballance Farm Environment Awards – NZ Farm Environment Trust Livestock Award and Deer Industry New Zealand's Firstlight Award for Total Commitment to Sustainability.

The work has greatly improved both the value and sustainability of the farm, enhancing aesthetics and giving everyone working there a real pride in the property. These values will continue to increase as new plantings mature. Environmental improvement is seen as an investment rather than a cost at Peel Forest.



Voltamir:
 Voltamir has bolted to the top of the DEERSelect rankings for 12-month growth rate.

Large commercial operation puts genetics to test

Although better known as a stud, Peel Forest Estate is run on very commercial lines, with a large velvetting herd and about 1,800 stags. It also finishes up to 2,000 weaners, mainly purchased from its foothills farm at Lincoln Hills, which runs 3,000 breeding hinds.

Apart from sires, all R2 and older stags, whether stud or commercial animals, are run together in mobs of 250, wintering on swedes and silage with no grain. This puts pressure on the animals to perform and handle any stress associated with this farming practice. This is very important, especially if animals are challenged by Johne's disease and have to prove their resilience. Being still present in the environment, the Johne's disease challenge assists with trialling the animals, either for sale or breeding. The excellent results they are getting augurs well for future progress at Peel Forest Estate and its contribution to the industry. 📺

Deer farming China style

DINZ Producer Manager, Tony Pearce, captured this view of the traditional methods used to farm deer for velvet in China for the past 300 years when he attended the Fifth World Deer Congress in Changchun, Jilin Province, China, last month. We'll have more on this event in the October issue of *Deer Industry News*.

- *Hind Sale Dates*
- *Private Treaty Sales*
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