

# DEER INDUSTRY NEWS

Issue 57 • December/January 2013 • Official magazine of Deer Industry New Zealand and the NZDFA



A Merry Christmas and prosperous  
New Year to all our readers



Meeting spring deadlines *p18*

## Also in this issue:

- NZDFA Branch Chairmen's meeting highlights
- Peel Forest Estate open day
- Major revamp for DINZ website
- John's disease science forum
- Tag discount coup for NZDFA members
- Deer Progeny Test – first results
- DEERSelect latest rankings



**DEER INDUSTRY  
NEW ZEALAND**

**NZDFA**

New Zealand Deer Farmers' Association



# All deer farmers urged to support their association

The Deer Farmers' Association – what is its role in the industry? Are you a member? How relevant is it to the New Zealand farmer? These are just some of the questions that the executive and other senior representatives asked ourselves recently when we analysed how to take the DFA forward.

One of the main issues facing the DFA is the identity crisis it has with DINZ. Many people inside and outside the industry don't understand the complementary roles of each organisation. DINZ is the levy-funded organisation whose main roles are production, promotion, quality assurance, research, market access and industry representation. While there is some overlap in areas such as industry representation, the DFA is the farmers' voice. Through local branches, all deer farmers have the opportunity to voice their concerns or take an active part in branch and national leadership and have a hands-on role in industry decision-making. Ever since its inception in 1975, the DFA has fought to defend deer farmers' freedom to operate so that they can farm profitably. The DFA understands how farmers think and how they want issues handled. This enables it to work with DINZ as the grass-roots perspective ensuring that the industry has a coordinated approach at the top.

With this vital role in the industry it is of concern that DFA membership has declined. As an incorporated society with a voluntary membership subscription, we have to maintain a majority representation so that we do represent deer farmers. The \$100 subscription is a cheap investment for your farming enterprise, yet many don't pay and, in effect, freeload off the contribution of paid members. Many non-members reading this magazine think they are members because they receive it. That is not the case. The recent CINTA survey found that 75 percent of deer farmers

identified as DFA members, but the real percentage is closer to 55–60 percent.

This highlights that the DFA needs to be more visible and promote its achievements for farmers. Strong, vibrant branches that organise field days, social events and other activities help keep the profile strong.

At the recent branch chairmen's meeting in Wellington it was great to see many younger faces keen to make a contribution. At the meeting the executive unveiled new vision and mission statements. The vision statement "Your Voice Our Future" will be part of the existing DFA logo. The mission statement to support this is "A strong visionary association providing effective leadership and representation that inspires profitable growth and a sustainable future for all deer farmers". This statement encapsulates what the DFA stands for and always has since deer farming started.

A new initiative is for the DFA to get in touch with young or aspiring deer farmers, encouraging them from secondary and tertiary education through to farming. To encourage more young deer farmers we need relevant information and backup at all levels. We know deer farming competes well and outperforms many other land use options but it has dropped off the radar from many agriculture services such as banks, accountants and consultants, so doesn't get the exposure it needs. To help address this we are planning to have up-to-date production and financial information easily available so that, for example, banks have good information that enables them to respond correctly to their deer farmer clients' needs and also be able to advise others about where it could fit into their operation. Without this financial backup and understanding, the industry will not be able to move forward as it should and take advantage of industry initiatives such as the Productivity Improvement Programme.



John Somerville.

## Contents

<b>Editorial:</b> .....	3
<b>Branch Chairmen's meeting:</b>	
Productivity: Spelling out the rewards .....	4
Farm <sup>o</sup> – benefits from end to end .....	7
NAIT update – practicalities put under the microscope .....	10
AHB report: Chasing eradication in wildlife .....	12
<b>DINZ news:</b>	
Big makeover for deer industry website .....	8
<b>General news:</b>	
Rising Stars competition: 16 February 2013 .....	13
Coming events .....	28
Tag discount a major coup for NZDFA members .....	37
<b>Market Report:</b>	
Venison .....	14
Velvet .....	17
<b>On farm:</b>	
Good reproductive performance in 2012 for Zino brothers' farms .....	18
Peel Forest Estate open day .....	25
<b>Research:</b>	
Frank Griffin challenges deer industry to support John's research .....	30
The Venison Supply Systems Programme .....	32
Experts brought together for John's science forum .....	34
The highlights of 2012 with JML .....	34
Deer Progeny Test: The proof of the pudding .....	38
DEERSelect changes .....	39
DEERSelect: Latest sire summaries .....	40

continued on page 4

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

**Circulation enquiries:** Deer Industry New Zealand, PO Box 10-702, Wellington, Ph 04 471 6114, Fax 04 472 5549, Email [info@deernz.org](mailto: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](mailto:din@wordpict.co.nz)

**Cover:** Focus farm facilitator, Wayne Allan (left) and Sam Zino with weaners at Flaxmere. See feature page 18. Photo: Mike Bradstock.



## Productivity: Spelling out the rewards

DINZ Chairman, Andy Macfarlane, took NZDFA Branch Chairmen through the rewards of “the prize” in the Productivity Improvement Programme (PIP) at their meeting in October.

While the targeted improvements in production efficiency across a range of measures appear quite modest in compound annual growth rate terms, the cumulative effect of reaching these goals will be a healthy \$1.27 per kg of product earnings before interest and tax (EBIT), or +\$88 per hind. That translates to per-annum profitability increase of 57 percent per kg after 10 years, and an impressive 200 percent increase in net profit per hind. The improvements will come through more efficient production of each kg of venison, combined with greater volumes produced.

If herd numbers remain static, the increased efficiencies could add \$101 million to FOB revenue across the whole industry over the 10 years. However, if hind retention increased by 5 percent annually and stag numbers by 1 percent, the national breeding herd could reach 828,000 by 2022, producing 37,000 tonnes of venison worth \$517 million – an 85 percent increase over the decade.

From a marketer's perspective, the PIP could deliver an additional 17,000 tonnes of venison per annum by 2022, all achieved with a smaller environmental footprint. Through more efficient production, the inputs of water, carbon, nitrogen and phosphorus required for every kg of product will be smaller.


The key indicators of success would be increases in volumes, price and profitability, Macfarlane said.

DINZ has designed a “Next Generation Programme” to offer the right products to a growing market and this programme is at the heart of the industry's bold Primary Growth Partnership (PGP) proposal for a \$20.5 million, seven-year initiative to take the deer industry to the next level.

For this to work, farmers would be asked to “put a bit of money on the table, in order to get a heck of a lot more back,” Macfarlane said. This would come in the form of a 4 cent/kg levy (2 cents each from farmers and processors) on venison plus some on-farm investment. “On the levy alone, we calculate that the industry will get back \$32 for every \$1 invested. Some of the on-farm investment required would come out of that \$32, but it's still a very good return.”

Editorial: continued from page 3

Another win that the DFA has secured for its members is a deal we negotiated with Leader enabling members to purchase NAIT tags at a special DFA price – a saving of at least 30 cents on each NAIT tag. Most DFA members will pay for their sub and more with these savings. This is an example of the DFA helping its members.

The DFA is a vital cog in the industry and both it and DINZ have to focus on the same goals. To successfully play its part, the DFA has to be strong financially and in membership. If you aren't a paid-up member, become one now and help our industry. To answer the opening questions in this editorial, the DFA is relevant to all deer farmers and it has a central role to play in our industry. 

■ John Somerville, NZDFA Executive

### The detail

DINZ CEO, Mark O'Connor went on to explain the PIP programme of work and its implementation – just what would be required to help realise these goals. The programme was developed by the Productivity Leadership Group out of the projects that had been identified by the PIP theme groups. It comes in threes: three work packages, three enablers and three practice change initiatives.

**The work packages** required are focused on animal health, feeding and genetics.

The animal health package is based on the uptake of tailored animal health plans by individual farm businesses, supported by initiatives to control and reduce the impact of diseases that inhibit production, as well as reducing fetal loss. Although animal health plans were already widely used, O'Connor pointed out that a change of mind-set was needed away from fixing sick animals and towards maintaining wellness to support improved productivity.

Feeding initiatives support the long-standing goal of “more, heavier, earlier and better”. The projects will pull together existing knowledge about nutrition and then look at what's required to achieve an overall average 65kg carcass. Again, that will require tailored plans for each farm and being able to identify where things get off track on a property – for example, doing body condition scoring in January as a predictor or weaning weights so that remedial action can be taken early.

The critical initiative for the genetics work package is DEERSelect, with work spanning quantitative (i.e., more weight) and qualitative (e.g. better taste and tenderness) measures. The Deer Progeny Test, fetal ageing and use of breeding values and indexes are also integral to this package. O'Connor noted that of the 2,000 or so stags purchased each year, only about 40–50 purchase decisions (about 2.5 percent) were informed by objective breeding values – a figure that's far too low. “The aim is to double that figure every year for five years.” The appointment of Sharon McIntyre as DEERSelect Manager was a step in the right direction, he added.

A fourth project relating to velvet was included latterly as part of the PGP application. That project would see EID used to help improve recording of individual attributes on farm and create a more transparent value chain right through to the customer.

The first of the three **enablers** identified is defined as industry-agreed standards. These come in three tiers: regulatory requirements for operating legally; productivity improvement and standards driven by societal expectations (e.g., environmental and welfare) and standards relating to the commercial marketplace. The second enabler is the delivery of the right information (standardised measurements and benchmarking protocols). EID is an

important part of this. The third enabler is having the right people and resources in place to facilitate change – DINZ consulting officers, veterinarians, farm consultants and so on. This could include “coaching the coaches” and working with organisation like Lincoln University to ensure the deer industry is well represented.

Each of the three or four work packages will be supported by a **practice change** initiative – an acknowledgement that effort is needed to get uptake on a farm-by-farm basis. These initiatives will utilise existing deer farmer networks and groups and highlight the examples set by the industry's innovators and early adopters to inspire change across the wider deer farming community.

### An extra \$26,000 a year from an existing herd

Giving a producer's perspective, *Haldon Station* manager Paddy Boyd reiterated that farmer buy-in was essential. “We have costs that are going to be there anyway, like NAIT, local authority costs, environmental demands, customer expectations for welfare, general administrative farm costs and a shortage of skilled staff. We know we have to compete with other land uses on all land types with deer. We need to use the new technology [available] to stay ahead.” Boyd confirmed there had been a lot of producer input into the design of the PIP.



Paddy Boyd, *Haldon Station*, speaking at a field day earlier this year: Gains to be had from better predictive breeding values.

“The initiatives will produce gains but it does require some money. If we use better predictive breeding values to select animals the way the beef industry has, there are great gains to be made.” Better knowledge and use of feeds at crucial times, better understanding and use of breeding values and tailored health programmes would all help.

“We'll end up with better growth-type animals, earlier kill and better kill weights, higher fawning and weaning percentages, more animals, more quality feed at appropriate times and we'll meet customer perceptions – it all ends up as more dollars in our pockets.”

Boyd said that if the programme yields better volumes of consistent, higher-quality venison, then processors should be able to absorb the cost of their 2 cent share of the levy funding.

In using a typical commercial farming scenario with 500 hinds and 150 stags, Boyd said an increase in fawning percentage from 80 up to 89 percent, breeding slightly heavier animals and reducing death rates through more proactive animal health management would yield more product from the same number of animals. This could deliver an extra \$33,000 per year after five years.

“Your contribution to that through the 2 cent levy is only about \$500 a year. Yes there will be additional animal health and feed costs of about \$6,000 a year, but that still leaves a net gain of more than \$26,000 a year.”

In discussion following these presentations, the point was made that the reproductive barrier inherent in deer would prevent the industry from making the spectacular productivity gains seen in sheep. Macfarlane acknowledged that but said the challenge was similar for beef producers. He added that in the land classes inhabited by farmed deer, sheep were unlikely to achieve the 150 percent reproductive performance seen on easier country, so they wouldn't necessarily outcompete deer. 🇯🇵

- For further information: NZDFA members can access presentations from the meeting at <http://tinyurl.com/afacft2>



## WILKINS FARMING

BREEDING FOR THE FUTURE

### DEER MANAGER

We require a capable deer manager to look after our commercial and stud operation in Wendonside. We need somebody who understands deer feeding, handling, husbandry & breeding.

We need a person who works well in a team and can also work unsupervised with a requirement to make responsible management decisions, show good initiative and direct other people in the work place. Computer literacy for stud records is preferred.

This is a good opportunity for somebody to be involved in a longstanding deer operation using modern equipment & techniques to achieve maximum commercial production & stud breeding gains.

Accommodation is available.

**Apply to [mike@wilkinsfarming.co.nz](mailto:mike@wilkinsfarming.co.nz)**  
**Check our website for further information**  
**[www.wilkinsfarming.co.nz](http://www.wilkinsfarming.co.nz)**



## Benefits from end to end

Some farmers might see NAIT as an imposition but EID will actually prove quite valuable. That was the advice of FarmIQ CEO, Collier Isaacs, to NZDFA Branch Chairmen at their October meeting.

Isaacs gave numerous examples of the benefits of being able to follow individual animals through the value chain. An obvious one was being able to analyse why, within a mob, some animals perform well above average while others languish. "Using EID you can do this without too much effort."

He noted that hundreds of thousands of sheep were now sporting EID tags, despite their not being included in the NAIT scheme so far.

Isaacs said FarmIQ – a seven-year programme to build an integrated red meat value chain that delivers sustainable benefits to all participants – was working closely with the deer industry, especially through the Focus Farms. He said benchmarking information would help farmers identify opportunities for improvement if they were lagging behind. This was working well for sheep operations but the same principles would work for deer.

Isaacs explained that the FarmIQ partners (Landcorp, Tru-Test Group, Silver Fern Farms and the Government's Primary Growth Partnership) are investing a total of \$151 million over the life of the programme. This is aimed to grow New Zealand's GDP by \$1.1 billion and by \$8 billion out to 2025.

While about one-third of the value will be grown in-market, more than half of the growth in value was happening before the farm gate, through improved genetics and on-farm work. Tracking individual animals, measuring and improving yield and quality were key to the success of FarmIQ, right through the chain.

Isaacs showed graphs that revealed there is high variability in venison primal weights, something that directly affects carcass value. Quality was every bit as important as quantity, he added, noting that scientific quality measures of attributes such as colour and marbling, and consumer taste panels, are becoming increasingly sophisticated.



Collier Isaacs: FarmIQ system will link in with existing farm management tools.

That said, quality was difficult to measure on line, but pH was the most important single factor. It had a big impact on meat shelf life, tenderness, texture, odour and flavour. Isaacs said farmers could have a big influence on pH levels in the meat mainly through factors affecting growth



FarmIQ is a map-linked system.

rates such as forages used in the month before slaughter and by minimising stress.

Changes in technology, including the reduction in cost of SNP chips will help accelerate the process of identifying genetically superior animals, although collection of phenotype information in plant is not without its challenges, he noted.

Other than the aforementioned care with animals in the lead-up to slaughter, Isaacs said the biggest job for the farmer in their portion of the value chain is the tagging and regular recording of animal-related activities such as weighing, animal health treatments, forages eaten and so on. The uploaded files will go into a database that then matches the individual animal information with the kill information coming out of Silver Fern Farms.

In the FarmIQ sheep system there is a ewe reproduction section into which farmers can upload data such as breed, age, condition scores, scanning results and so on. This would highlight ewe efficiency, allowing farmers to cull poor performers and look after the better animals.

The FarmIQ system would allow farmers to generate reports that helped pinpoint efficiency gains. A range of reports were available including liveweight gains, forage performance, performance of bought-in versus homebred animals, breed performance and kill sheet data.

A simple but smart benefit with sheep was that if taking mixed lines of lambs to heavier weights, EID could be used to draft out ewe lambs at lighter weights to avoid being penalised for fat grades. Exactly what this weight is can be set up based on each farm's experience.

The system could also help farmers separate out the performance of different breed lines. Using a real-life example with sheep, Isaacs showed how farm-recorded data and kill data revealed significant differences between lines of lambs, showing superior growth rates and carcass yields for one returning an additional \$5.20 per head through better yields, but also getting to kill weights much faster, which freed up the feed for other finishing stock or putting condition on ewes before tupping.

continued on page 8



## Big makeover for deer industry website

Deer farmers now have a one-stop-shop for deer farming information. The much anticipated new deer industry website went live last month, at [www.deernz.org](http://www.deernz.org)

The standout new feature is the productivity improvement hub, which contains detailed production and management information for established producers, new entrants, students or anyone seeking information about deer farming. A website project team of AgResearch staff and DINZ executives along with farmer representative reviewers gathered and assessed information from years of research and industry knowledge.

Parasite management, nutrition guidelines and compliance for deer farmers are just a few examples of the detailed information available on the site.

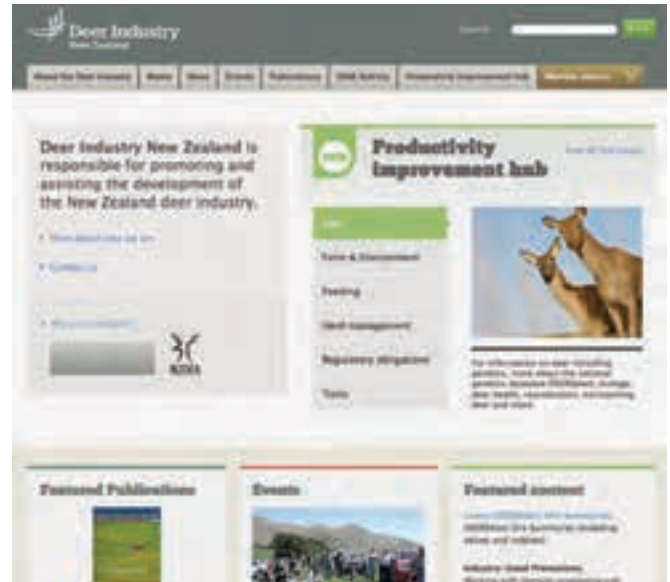
“What was once spread across books, manuals and different websites is now edited, updated and available in one spot,” says Mark O’Connor, DINZ CEO.

“The resulting tool is an excellent resource for our deer farmers to help with the industry goal of productivity improvement.”

The new look and feel of the website was the result of successful collaboration between DINZ and Wellington companies Ocean Design Ltd (design) and Sparks Interactive Ltd (site building and functionality).


The old website was a good performer in its day, O’Connor says, but with the ever increasing use of computers and the internet as a platform to source information, a fresh functioning site with modern features and easily accessible information was well overdue. The latest Nielsen survey of around 2,000 farmers, from all sectors, has reported that more than 86 percent of farmers have internet capability and 78 percent with broadband through cable, phone or satellite. In addition, 85 percent own a mobile phone with 18 percent using it for internet access.

Another key feature of the new site is the members-only section for all current New Zealand Deer Farmers’ Association members. Within this area members can access



Home page for the new deer industry website.

material such as previous *Stagline-Online* newsletters and receive on-line benefits such as the substantial discounts on Leader NAIT tags (see page 37 for more on this great benefit for NZDFA members). Deer farmers can keep up with events and publications such as the recently launched Landcare manual. This is available to download or can be read online.

“There are many other new and exciting elements to the site, but the best way for all to see the changes is to go online at [www.deernz.org](http://www.deernz.org) and have a browse through the sections,” says Amy Wills, DINZ Producer Coordinator. 

For more information on the new website or to get assistance with certain features please contact the DINZ office on 04 473 4500 or email [amy.wills@deernz.org](mailto:amy.wills@deernz.org)


Farm<sup>IQ</sup>: continued from page 7

Farm<sup>IQ</sup> currently had seven IQ farmers and was about to release its first benchmarking reports. Data showing “best of” including best of breed, forage, yields, growth rates and so on were also in the pipeline. These would have regional and national figures.

He said Farm<sup>IQ</sup> Farm Management System would key into existing recording systems such as *Farmax*® and also captured information such as animal health treatments, liveweights, information from processors, nutrient budgets (linked to *Overseer*®), genetic reporting and stock movements. Isaacs said the Farm<sup>IQ</sup> system was built on the principle of avoiding reinventing wheels. The system, based on a farm map, joined all these components together for farmers, Isaacs explained. The map could be overlaid with information on livestock, forages and so on, paddock by paddock.

“It’s useful for analysing where you’ve been, but also for planning.”

A pilot system would be launched in February and open for any farmer to buy in by November 2013. The price wasn’t finalised yet.

Summing up, Isaacs said Farm<sup>IQ</sup> would yield important benefits right through the value chain, including farmers and consumers. “It’s consumers who pay us. If we don’t give them a great experience they won’t keep paying. A lot of the information that will be generated is a by-product of routine farm management. For you, this information will deliver improved productivity and returns.” 

- For further information or to register your interest: <http://www.farmiq.co.nz>

# NAIT update – practicalities put under the microscope

NAIT CEO, Russell Burnard, updated Branch Chairmen on the countdown for deer to be introduced to NAIT on 1 March 2013.

He said that nearly four months after the launch of NAIT for cattle on 1 July 2012 there was high awareness of the rules. Almost 35,000 – about 50 percent of all farmers – had registered by the start date and by October that figure had climbed to more than 50,000.

Compliance is high – more than 95 percent of cattle were arriving at sale yards tagged, with the yards tagging the balance before they left; 86 percent arriving at meat works sported a NAIT tag, many of the untagged animals falling into the “impractical to tag” category. As of October, 25 percent of the national cattle herd was registered.

Burnard said most of the rules that applied to cattle also applied to deer.

- Every person in charge of an animal must have a NAIT number linking them to the location.
- Deer born after 1 March 2013 must be tagged within 180 days of birth or before they move off farm, whichever comes first.
- Deer born before 1 March 2013 must be tagged within three years unless they are being moved off farm, in which case they must be NAIT compliant.
- Animals must be registered within one week of being tagged.
- Animal movements must be recorded within 48 hours. (Burnard said that some cattle farmers were struggling with compliance on this point.)

## Separate numbers for separate herds

He reminded chairmen that if cattle and deer herds had differing Tb statuses, putting them all under the same NAIT number could lower all animals to the lower (i.e. highest risk) status. If the herds were kept separate, farmers could register a separate number for each herd. If in doubt talk to the Animal Health Board.

From the beginning of October 2012, deer farmers have had the option of tagging with a NAIT tag or an AHB barcoded



Deer join the NAIT scheme from 1 March 2013.

tag, but from 1 March 2013 the NAIT tags will be the only legally compliant tags for deer. Current AHB tags should not be removed, however.

Burnard also went through the exemptions and special circumstances for deer – a set of concessions reflecting the good work done on behalf of deer farmers by NZDFA. Exemptions apply to:

- animals that are impractical to tag, if going directly to a meat processor, subject to payment of a levy of \$13 plus GST per head for 2012/13 (Burnard conceded that most farmers thought the \$13 price tag was too high, while meat processors thought it was too low)
- trophy deer – tags may be removed if the deer are sent to a game estate or safari park (there is no cost associated with this, but written permission from NAIT is required before the animal is moved – the animal must be going to a registered trophy farm.
- fallow deer – farmers will be granted permission by NAIT not to tag fallow deer but an annual stock take will be required.

For animals being sent to another property for grazing, Burnard explained that the movement each way would have to be notified – the owner when the animals leave the property for grazing and the grazier when the animals are received. He said that the farmer could assist the grazier by supplying the file of scanned NAIT numbers for the mob; this could be used as a basis for reporting the movement back to the farm of origin, with numbers for any animals that have died being removed.

## Challenged with real-life examples

Waikato's Steven Borland challenged Burnard with some real-life examples where there were complex animal movements, for example when a mob was split up and sent off to multiple destinations. The farmer involved had “given up” trying to record all the movements. Andrew Peters (Taihape) said it was not helpful for farmers that the NAIT helpline didn't operate after 5pm or at weekends. “That's when farmers do most of their business.” Burnard said the system was constantly being refined and the helpline hours were being considered, although longer hours could increase costs.

One delegate professed to not being able to use a cellphone, computer or scanning wand. “How will I get on?” he asked. Burnard said the system was designed to accommodate people without computer skills. Sale yards and meat processors could register animal movements on your behalf.

Where there was a sale between farms and neither had the necessary computer skills or equipment to register the movement with NAIT, the transaction could still be registered via paper, at a cost of “\$20 for the first 20 animals and \$1 per animal after that”. 🐾

## AHB report: Chasing eradication in wildlife

The spectacular drop in the number of bovine Tb-infected cattle and deer herds from a mid-1990s peak of 1,700 to just 66 (including five deer herds) at June 2012 is testament to the success of the previous National Pest Management Strategy. The progress has been so good that the target of less than 0.2 percent period prevalence for the disease has been reached a year ahead of schedule. However that needs to be maintained (the latest figure is 0.19 percent) for at least three years before New Zealand is declared officially free of the disease.

This was amongst the news brought to Branch Chairmen at their October meeting by Animal Health Board (AHB) Technical and Farm Services Manager, Dr Stu Hutchings.

### National Pest Management Strategy

Hutchings said the focus of the previous strategy on numbers of infected herds meant that resources were concentrated around clusters of infected herds. While that was effective, it did mean effort was sometimes cut back in other areas where good progress had been made – taking the foot off the gas did carry its risks, he warned. For example, there had been a recent breakdown in the South Island in a previously vector free area, thought to have been introduced through potential movement of wildlife across the Southern Alps.

Wild animals were still the main source of infection (up to 70 percent) and the revised National Pest Management Strategy, implemented in mid 2011, swung its focus towards eradication of the disease in wildlife. About 40 percent of the country has infected wildlife and the revised strategy targets a reduction in this area by 2.5 million hectares. The proof of concept for eradication in wildlife in extensive

bush areas is being achieved through localised projects in the Hauhangaroa Ranges in the North Island and Hokonui Range in the South Island – something that will take 10–15 years. Pigs, ferrets and deer are being used as sentinel species to assess how much the disease is being reduced in the possum population.

Keeping numbers of infected herds down remained a secondary objective. Although the bar for this had been set at no more than 0.4 percent period prevalence compared with the previous 0.2 percent, the desire was to keep levels down where they are now.

Hutchings noted that the pest control efforts are designed to eradicate the disease in possums, not eradicate possums. Coordinating efforts with the Department of Conservation was always an objective, especially where coordinated efforts can maximise biodiversity benefits.

Achieving eradication of Tb in wildlife depends on getting possum population densities down. One of the challenges is to identify residual clusters of possums so these can be targeted, Hutchings said.

There was nothing to be gained from using fur traders to help keep possum numbers down. “They would go broke before we got anywhere near our targets. We’re talking one possum per 10 to 20 hectares.”

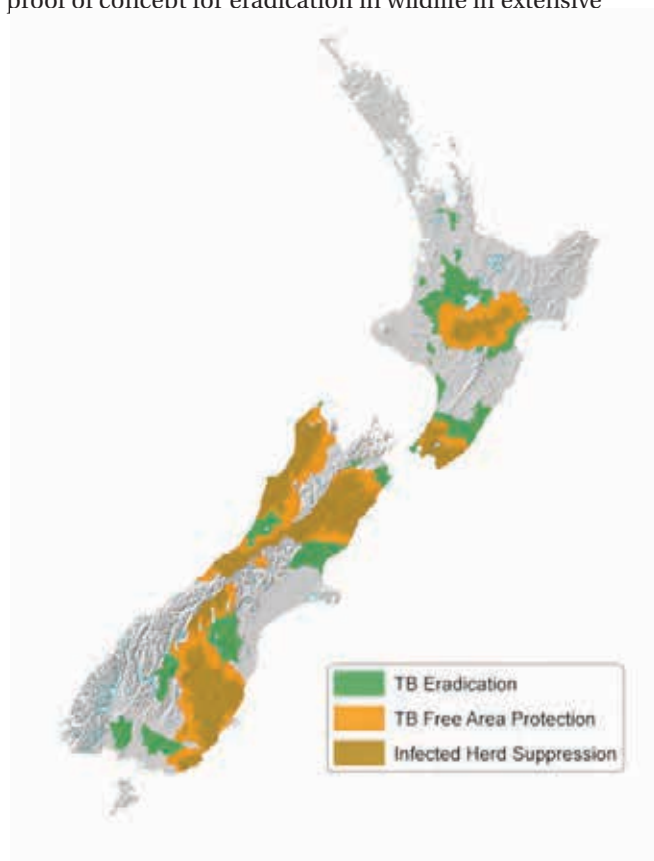
### Research

Hutchings said the AHB has about \$2.5 million per year available for research, although most of that is committed to multi-year projects. One new project will be to investigate 1080 bait quality, to ensure that the toxin is being delivered as effectively as possible. Another project will look at “trappability” of possums once population densities are lowered. Options being investigated include use of various lures, sex pheromones, audio signals, “Judas possums” and so on.

Combining two toxins, coumatetralyl and cholecalciferol, appears to improve the efficacy of both and reduces the risks from the longer-life anticoagulant poisons – another area showing promise. Following the unfortunate deaths of some keas from 1080 poisoning, work is also being done on bird repellents.

### Deer closed herd policy

Thirty-five of the 50 applicants to operate under the AHB's closed herd policy have been approved so far (see <http://tinyurl.com/baz9uql> for criteria). Hutchings said that those who had not been approved usually missed out because they hadn't been killing a high enough proportion of their stock each year to be operating an effective surveillance programme. (Herds in annual testing areas that meet the



AHB target for Tb eradication by 2025/26. (Source: Animal Health Board)





# RISING STARS

## 2013 National Hard Antler & Velvet Competition

"Setting new benchmarks for the future of New Zealand deer"



### "Leon"

Rockvale Deer

**Winner of the Supreme Award 2012**

**WHEN:** Saturday 16th February 2013

**WHERE:** Te Awamutu Racecourse

**HOSTS:** Waipa DFA

**CONTACT:** Graham & Shelley Lawson

We are looking forward to another great event in 2013 so start planning now and keep an eye out for those "grab-a-seat" flights and early bird specials!

As part of the entertainment programme for 2013, Chelsea Marriner and her "Dog Stars Trick Team" will be putting on a display in the early part of the evening! (As seen on *New Zealand's Got Talent*.) A "special event" later in the evening will ensure a spectacular night of fun and relaxation with great competition and rivalry :-)

We would like to encourage Wapiti and Fallow breeders to give us all the opportunity to view your heads at the event.

The information pack and entry forms will be available in early January.


For information please call or email Graham or Shelley on **07 873 2763** or **huntingdon1@xtra.co.nz**

criteria for the closed herd policy can go to three-yearly testing.)

### Tuberculin changes

AsureQuality has decided to close its New Zealand tuberculin operation, Hutchings reported, and existing stocks expired at the end of October. Supplies of an alternative tuberculin are now being sourced from Europe and testing has shown that these have similar sensitivity and specificity to that of the previous product.

The new bovine tuberculin for the mid cervical skin test is registered and being used, but registration for the new avian tuberculin still wasn't complete and wasn't likely before the end of December. That meant CCT tests would not be possible after 1 November, until the registration was completed.

This would affect people who used CCT tests as the primary tests before a stag sale. Hutchings said they should instead use the standard skin test and do an ancillary ETB test, until the avian tuberculin was registered. 

## Venison

### Market conditions

After steadily improving price levels and orders over the past four years, the prolonged European recession appears to be having a negative impact on sales of New Zealand venison. Marketing managers describe trading conditions as tough but stable. European importers report that sales are probably in line with their pessimistic expectations.

Chilled exports are down on last year. Some importers decided to reduce their risk by ordering less chilled venison than in previous years. Exports in August and September 2012 amounted to only 486 tonnes, down from 828 tonnes last year. With this reduced volume, prices for chilled product are reportedly holding steady, but indications at this point are that few importers are seeking top-ups of air-freight chilled venison at current prices.

Bright spots include Sweden, Switzerland and the United Kingdom, where retail sales are up on previous years.

Frozen loins continue to be a problem with prices for New Zealand striploins sitting 25–30 percent above competing European product. Venison legs continue to sell reasonably well, but price pressure is being felt on some manufacturing items. As the festive season swings into full gear in continental Europe, marketers will be keenly waiting to hear how sales progress before discussions on new year prices can begin.

**Table 1: Slaughter statistics by month (deer numbers)**

	2006/7	2007/8	2008/9	2009/10	2010/11	2011/12	% Change
Oct	72,490	67,966	50,502	46,241	37,379	41,564	11%
Nov	75,327	66,835	65,220	51,796	51,820	54,027	4%
Dec	48,969	47,918	53,778	39,978	46,516	39,047	-16%
Jan	54,907	64,286	61,123	36,306	40,473	44,881	11%
Feb	49,751	68,089	53,392	31,724	38,958	50,860	31%
Mar	63,786	56,623	47,449	43,403	49,730	41,711	-16%
Apr	45,355	63,786	34,824	29,722	31,019	24,066	-22%
May	43,157	41,966	26,769	19,769	25,751	24,052	-7%
Jun	26,479	37,152	22,411	18,231	22,085	19,981	-10%
Jul	30,540	34,725	20,728	18,193	19,377	20,566	6%
Aug	43,210	23,871	25,773	25,051	20,743	23,454	13%
Sep	54,547	30,740	28,182	24,287	30,661	22,535	-27%
Year end	608,518	603,957	490,151	384,701	414,512	406,744	-2%

National slaughter in the 12 months to the end of September is recorded at 406,700 deer, 2% down on the previous year. The kill had been running ahead of year-earlier totals until a 27% reduction in the September kill (Table 1).

At 49% of the total, the hind kill seems to be continuing to run ahead of the herd maintenance rate, indicating a probable slight reduction in the national herd in the past year (Table 2).

**Table 2: Deer slaughter by sex, year ending September**

	2010/11		2011/12			
	%	head	%	head	Change	% Change
Hinds	49%	201,972	49%	198,868	-3,104	-2%
Stags	51%	212,540	51%	207,876	-4,664	-2%

Increased carcass weights saw total venison production finish the seasonal year virtually unchanged on the year earlier at 22,900 tonnes, only 0.1% down, but 7% up on production two years ago (Table 3). For the season ending September 2012 the average carcass weight is 56.13kg, up 1kg on the year earlier and the heaviest since a major reduction in the velvetting herd in 1997.

**Table 3: Production statistics by month (tonnes)**

	2006/07	2007/08	2008/9	2009/10	2010/11	2011/12	% Change
Oct	3,818	3,575	2,772	2,528	2,043	2,324	13.8%
Nov	4,209	3,737	3,891	2,985	3,011	3,215	6.8%
Dec	2,773	2,698	3,130	2,295	2,634	2,274	-13.7%
Jan	3,125	3,609	3,623	2,106	2,341	2,616	11.8%
Feb	2,850	3,701	2,997	1,838	2,223	2,943	32.4%
Mar	3,503	2,987	2,536	2,401	2,729	2,297	-15.8%
Apr	2,391	3,292	1,815	1,590	1,632	1,290	-20.9%
May	2,210	2,138	1,373	1,026	1,334	1,256	-5.8%
Jun	1,349	1,871	1,168	937	1,153	1,045	-9.4%
Jul	1,584	1,823	1,076	955	1,027	1,103	7.4%
Aug	2,221	1,242	1,387	1,389	1,114	1,265	13.6%
Sep	2,860	1,644	1,522	1,290	1,680	1,273	-24.2%
Year End	32,893	32,318	27,290	21,339	22,920	22,900	-0.1%

### Deer industry exports

Deer industry exports fell in value to \$268.5 million for the past season, 3% down on the previous year and around \$100 million less than the peak export value in the mid 2000s. Venison recorded a per unit value decline on slightly higher export volumes, while all other commodities recorded per unit increases in value (Table 4, Figure 1).

**Table 4: Total industry exports for the 2011/12 year**

Product	Volume			FOB Value (\$ million)			FOB\$/unit		
	2011	2012(p)	% Change	2011	2012(p)	% Change	2011	2012(p)	% Change
Venison (t)	14,848	15,271	3%	\$210.5	\$198.1	-6%	\$14.18	\$12.97	-9%
Velvet (t)	181	179	-1%	\$25.5	\$28.0	10%	\$97.99	\$109.38	12%
Co-prod (t)	4114	4,396	7%	\$17.7	\$19.6	10%	\$6.20	\$6.38	3%
Lthr (m <sup>2</sup> 000s)	308	239	-22%	\$19.9	\$17.5	-12%	\$64.65	\$73.10	13%
Hides (000s)	158	187	18%	\$3.8	\$5.4	41%	\$24.22	\$28.91	19%
Total				\$277.5	\$268.5	-3%			



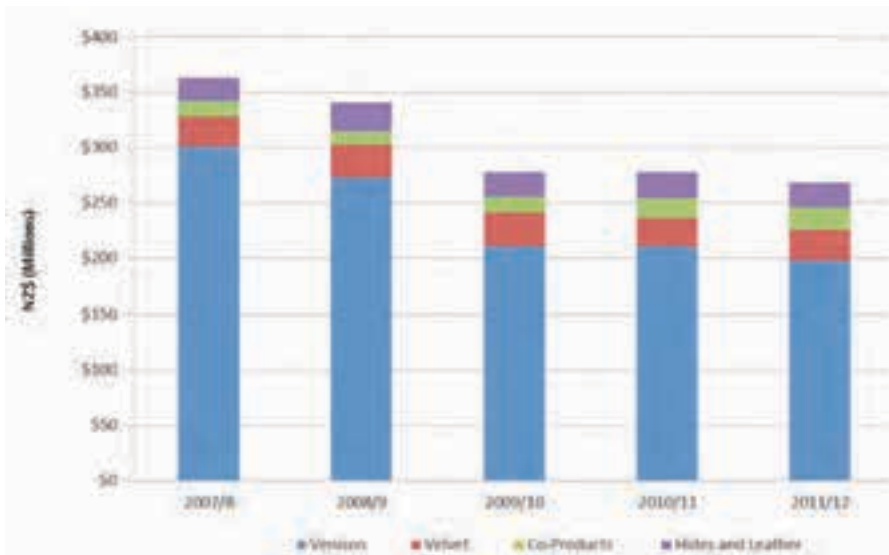


Figure 1: Total deer industry export earnings 2007/8 – 2011/12

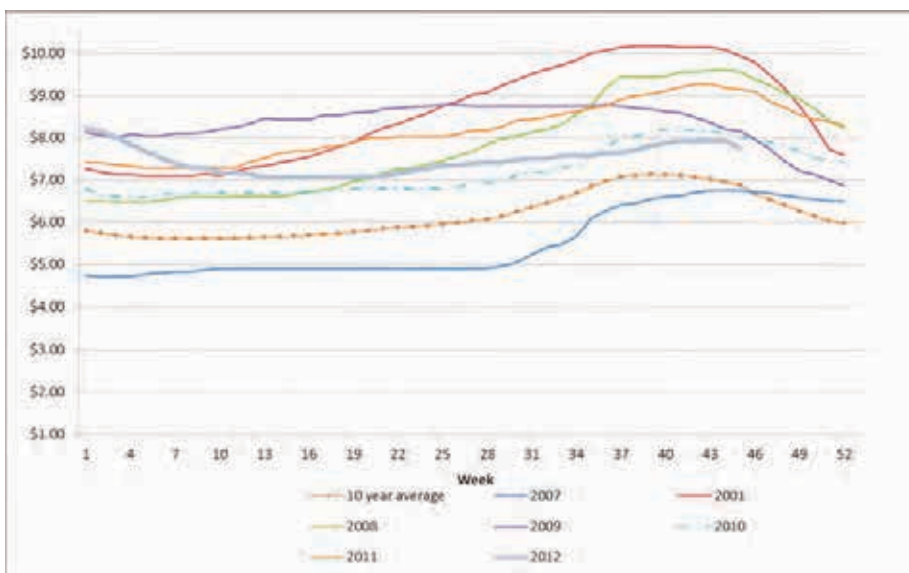


Figure 2: Average published schedule 55–60kg AP Stag



Figure 3: New Zealand dollar versus US dollar and euro, 2000 – 2012

## Venison schedule

The national average published schedule peaked at \$7.92 in October (source: Agrifax). This was 85 cents up on the low point for the 2012 schedule recorded in May. The \$7.92 was the lowest spring peak since 2007 and was 15% down on the 2011 peak (Figure 2). However those producers who agreed to fixed-price contracts earlier in the year would have received prices above the national published average schedule. The weighted average for the calendar year to date is \$7.52, down from an all-time high of \$8.23 in 2011. Since 2008 the annual weighted average for AP stags has varied from NZ\$7.36/kg to \$8.23/kg, fluctuating only 6% from the mean over this period. In the week beginning 26 November, the national average published schedule for 55–60kg AP stags was recorded as \$7.26, 22% above the 10 year average, 17% down from the same week in 2011.

## Exchange rate

Through November 2012 the New Zealand dollar was once again approaching record highs versus the main trading currencies for New Zealand venison. On 9 November the NZD was worth 0.645 Euro, and 0.823 USD, 19% and 16% above the 10-year average values respectively. Expectations of further trouble with Greece and Spain, plus slowing German export sales are leading to speculation that the euro may weaken further. Doubts about the US Government's ability to find a resolution to the impending "fiscal cliff" are weakening faith in the value of the USD.

## Market development: Joint promotion

The single largest area of DINZ spending in the year ahead is co-funding marketing companies' venison promotion. DINZ has set aside \$850,000 for the year ahead to assist marketing companies increase the scale and penetration of the market development. As a precondition of funding, DINZ required companies to provide a three-year marketing plan to demonstrate the alignment of the individual company's market development activities with the objectives of the New Zealand Venison Industry Strategic Intent. DINZ is now working with individual companies, where appropriate, on implementing venison activities. Markets include the restaurant chains in the United States, high-end butcheries in the Netherlands

and retail sales in New Zealand. Some activities continue to build on previous work in existing markets, which is necessary to maintain awareness of the availability of New Zealand venison; other projects are more speculative and are aimed at exploring potential in new markets that may be beneficial to New Zealand in the future.

Individual companies will continue to promote New Zealand venison at retail in European markets, highlighting the quality and versatility of New Zealand venison, including the opportunities for using venison in spring and summer.

DINZ is now concentrating industry-good funds on the food service sector in core markets. With increased competition from European venison, which has improved in quality and is cheaper, New Zealand needs to reinforce the reasons why New Zealand venison is superior and why it is worth a premium. Activities explain why New Zealand venison is a premium meat, and are aimed at ensuring New Zealand venison is linked with successful chefs, is served at top-end events and is presented in premium manner.

One key tool for achieving this is the new Zealand venison cookbook, *Modern Wildküche. Kochen mit Neuseelandhirsch* (*Modern Game Kitchen. Cooking with New Zealand Venison*). This professionally produced cook book features 34 modern, innovative and delicious recipes from eight of Germany's best chefs. The 146-page, hard-cover book also tells the story about why deer thrive on New Zealand farms and why our venison is so good.

The cookbook is being distributed through the restaurants of the contributing chefs and direct-mailed to influential chefs. DINZ is using these influential professionals to demonstrate how New Zealand venison is different to, and better than the competition, to create an increase in demand for New Zealand venison among Germany's young chefs. Changes in attitude and awareness will be measured by periodic surveys.



The New Zealand venison cookbook *Modern Wildküche* features recipes from Germany's top chefs.

## Other marketing activities in the past month

**Education:** DINZ organised another round of Pure NZ Cuisine education workshops in October and early November. Ten demonstrations to nearly 500 students have been completed this year. DINZ is pleased that Aquaculture New Zealand and Beef+Lamb NZ Ltd have recently confirmed their involvement for the coming year.

**Distributors' events:** With DINZ assistance, training events, sales meetings and formal functions for potential and existing customers have taken place in the United States over the past two months in Atlanta, New York, Los Angeles, Lake Tahoe, Chicago and Denver. Some distributors have provided DINZ with their promotion plans for the coming six months, requesting assistance to ensure successful implementation.

**Survey/promotion:** *Starchefs.com* is conducting a venison survey among 300 chefs in the United States to ascertain level of awareness of Cervena®. The survey provides an online platform to tell the Cervena story and the results will be built into a media release.

### Look out for more venison in New Zealand food

**magazines:** DINZ is now working on programme with a food and consumer public relations company to undertake more proactive media relations in New Zealand to generate more use of venison in New Zealand food media. With venison now available in all good supermarkets around the country, more people than ever have the opportunity to buy it but most consumers remain uncertain about its flavour and how to cook it. DINZ will be pro-actively seeking placements for venison with the nation's most influential food writers. So watch out for more venison being used, and New Zealand consumers becoming more familiar with our great meat.



Product placement alongside an advertisement for venison placed by DINZ in *Healthy Food Guide*.



# Velvet

## 2012/13 season

- Despite an unfavourable spring, velvet appears to be in generally good condition and productivity continues to improve in line with genetic improvement.
- At this point, market conditions are reasonably positive due to:
  - lower global production better matching supply and demand
  - continued firm prices for competitive products
  - reasonable economic performance in key north Asian markets (compared with Europe and the United States)
  - an increase in the volume of velvet being sold in the healthy food market in South Korea decreasing availability in traditional markets for velvet. As well as an immediate benefit, New Zealand can benefit from better branding opportunities as the velvet ingredient of choice.
- In New Zealand:
  - news of Provelco Cooperative Ltd's contract with Korean Ginseng Corporation set a positive tone before the velvet season, which has supported the industry
  - independent agents have been active early in the season with good velvet volumes and product flowing.

## Market access: Work cut out for Deer Industry New Zealand

Improved market access remains critical to the deer industry.

### South Korea

- **Free Trade Agreement with South Korea:** Both sides are voicing willingness to attempt to resume negotiations early next year. They will try to achieve this by re-assessing the discussions held to date. With 65 percent of New Zealand's velvet being consumed in Korea, it is important that velvet is in the final make-up of a potential trade agreement. In particular, DINZ is seeking the abolition of the 20 percent duties which indirectly cost the industry around \$6.5m per year.<sup>1</sup>
- **South Korean Individual Consumption Tax (ICT – formerly SET):** A significant breakthrough this year has resulted in a Bill going through the Korean Parliament to abolish the ICT from velvet. The backing of the local Korean deer industry has given velvet

importers more cause for optimism about this. DINZ has worked hard over the years to develop a good working relationship with the Korean Deer Breeders Association (KDBA) and at the last two meetings the KDBA has said its sponsorship in the Bill demonstrates its willingness to work more closely with the New Zealand industry. If successful, removing the ICT (around 9.2 percent wholesale cost) will remove over \$3.5m<sup>2</sup> of extra costs in getting New Zealand velvet to the market.

### China

- **Plant listings by China:** three venison plants have been approved to export to China. Work continues on getting more listed and to improve the access of deer co-products.
- **Regulatory status of New Zealand deer products in China:** DINZ is working with Chinese regulators, consultants and commercial operators in New Zealand to achieve the sale of velvet as a healthy food in China. One of the keys to this is resolving Chinese regulators' concerns with the species classification of New Zealand deer. This project will take time.

### Taiwan

- **NZ-Taiwan Economic Cooperation Agreement:** Despite reasonable overall progress, velvet was highlighted as a sensitive item by the Taiwanese and has been the focus of several meetings between the negotiating teams. Currently imported velvet attracts a 22.5 percent duty and there is a 5 tonnes quota limit for fresh/frozen velvet.

## Foreign exchange

Unlike other currencies, which continue to devalue against the New Zealand dollar, the Korean Won has strengthened since the start of the season (1 October 2012). However, defying logic, it remains historically weak against the Kiwi.

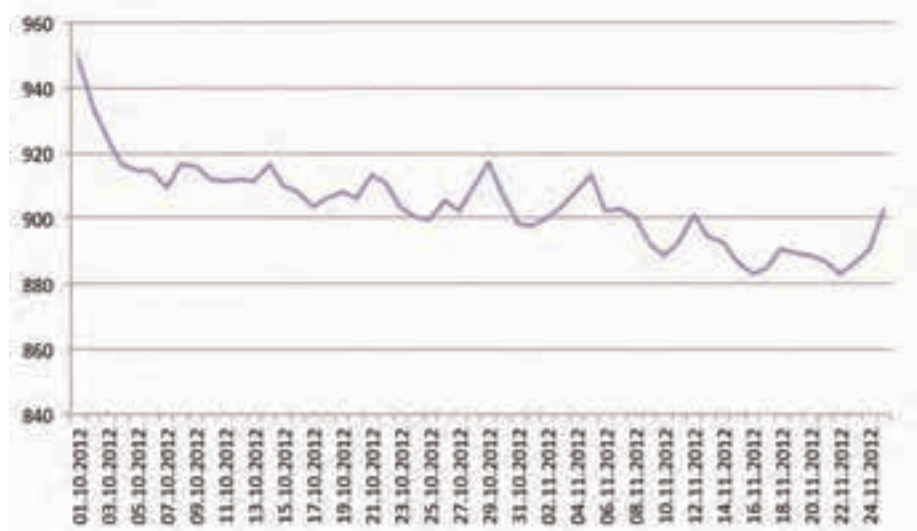


Figure 1: NZ\$ to Korean Won 1 October to 25 November 2012.

Source: www.oanda.com

<sup>1</sup> Based on 65 percent of 500 tonnes at average Korean grade \$100/kg

<sup>2</sup> Based on 65 percent of 500 tonnes at average Korean grade \$120/kg (including 20 percent duties)

# Good reproductive performance in 2012 for Zino brothers' Focus Farms

■ by Mike Bradstock, *Deer Industry News* writer

A Focus Farms spring fieldday on 19 October at the Zino brothers' North Canterbury breeding and finishing farms, *Kanuka Downs* and *Flaxmere*, showed again how risk management and long-term planning are paying off.

At *Kanuka Downs*, hinds came through the winter pretty well on Sam's new silage pit in a sheltered dry location, creating fewer environmental issues and helping to protect pasture covers. "Since this spring has been so wet, we're really seeing the environmental benefits of the self-feed pits, with less mud and less tractor use," Sam said. This enabled good covers to be conserved in the breeding unit. "Also, having the hinds scanned and divided into late and early fawning groups enables us to have large separately managed mobs for pasture control." (See "Scanning helps management" below.) One mob came out in good condition after 100 days' self-feeding though Sam noted the younger animals were being picked on a bit in the last fortnight. Maiden hinds were wintered on grass and balage and a bit of grain and also came through well.



Hill block about to be fenced at *Kanuka Downs*.

Focus Farm coordinator, Wayne Allan, said that a year ago they priced out a fencing programme for the hilly land at *Kanuka Downs* and did an investment analysis which looked very attractive. Now Sam has begun 15km of fencing to create a new block of around 60 hectares on the best of this land that is not too steep for a tractor. In winter he bought 203 new in-fawn hinds which have been moved into the first of the new paddocks on this block, bringing the breeding herd to a total of 721 hinds in fawn. The wet weather has put the fencing programme back, so they will have a policy of opening gates as each new block is fenced to let them move in with their fawns. Sam is keeping the bulls and late calving cows on steeper, less developed hill country that is not deer fenced.

## More land purchased

Another major development has been the purchase of a neighbouring farm of 163ha allowing for further expansion

of the *Flaxmere* deer finishing unit, providing for growth of the breeding operation. At *Kanuka Downs*, spring covers are above expectation because the animals were off grass for longer on two self-feed silage pits. This meant the pasture covers probably got a bit higher than they were comfortable with as they moved into set stocking.

Sam's been proactive about controlling covers. He was about to make balage in the last week of October, and had shut up another paddock of grass in addition to three of lucerne already set aside for silage cut in early November. The timing of the lucerne cut is critical to set up the whole summer rotation for the lactating hinds with a 40-day return. The early fawning hinds will start this rotation about 10 December. At month's end he planned to bring in his beef cows if necessary to control excess growth.

## Managing crops

They're still learning more about lucerne management in the finishing unit. "With one mob we split the paddock in half; the cover was "red band height" and budgeted to last 10 days but they finished it in five because they wasted a lot, largely from pacing in the cold and wet conditions during the introduction period. Next time we'll also have a grass paddock available so they can go back and forth during that introductory period."



Lucerne regrowth at *Kanuka Downs*.

Fodder beet produced well but there were problems with intense grazing on a very wet and muddy paddock so they are considering reducing the fodder beet and growing about half the winter feed as autumn-sown rape as an alternative.

Last summer at *Kanuka Downs* Sam put cows in with fawning hinds and was talked into trying a single hot wire across the field to keep the cows at one end. He doubted



whether this would work but neither the hinds nor the cattle broke the wire, and any time an adventurous fawn went up the other end of the field the mother simply jumped the wire and brought the wandering animal back.

Scanning results showed an overall 6.4 percent higher conception rates over last year, with the greatest improvements in MA hinds (from 93.4 to 99 percent) and first fawners (84.4 to 95.6 percent), which gained around 5kg over winter. Hind losses were minimal – just one animal.

## Planning the kill

Back in June Wayne and Sam did some number crunching on the kill profile using *Farmax*®. Results suggested pasture covers at *Flaxmere* would fall significantly and they decided to opt for an early kill strategy taking out all animals over about 48kg carcass weight before the schedule could fall.

As it turned out, feed was tighter after a very wet winter when the animals ate twice the projected quantity of feed. "Luckily we had it," said Sam. Some animals had to come off winter feed on 10 August instead of the projected 20th, while a second line scheduled to come off on 1 September was removed on 18 August. So there was a lot of pressure on pasture covers throughout spring and they had to feed supplementary grain.

After spring faltered during September they were greatly relieved to be able to send off a finished mob of 270 head in mid October to meet a production contract: "We had

great growth in August on the urea-primed pastures but then it fell away in September. With low soil temperatures and all animals out on pasture or lucerne we were 'mining the covers'. Pasture production in September was only 13kg DM compared with 20 last year, and when you've got larger animals eating more feed it makes a hole more quickly. Things only started to stabilise once we sold our first deer of the season, and with a second lot of 160 going this week [mid October] the relief of pressure will mean pasture growth should really pick up."



Weaners near to finishing at Flaxmere.

Continued on page 20

# REMARKABLES PARK STUD

## - QUEENSTOWN -

**AUCTION DAY - FRI 11 JAN 2013** Stud Viewing from 11:30am / Auction Starts 1:00pm

**WINNING STUD FORMULA** Excellent Temperament, Exceptional Confirmation, Guaranteed Performance, High BV's and Trophy Genetics.

### STUD SALE STAGS

35x 2yr BV Sire Stags  
15x 3yr & 4yr Dual Purpose & Trophy Sire Stags  
Antlers on Dual Purpose & Trophy Sires.

### DEC 2012 PURCHASE OFFER

R2 High BV Stud Stags available in Dec.

### OUTSTANDING GENETICS

29yrs selected Red Deer breeding.  
Extensive A.I. for Trophy & high venison BV performance from Deer Improvement Ltd.  
**Head/Velvet Sires** blood lines incl;  
**Craigie, Adonis, Brusnik & Platinum Dual Purpose Sires**, incl. by **Bremen BV24**.

### INFORMATION/CATALOGUES

**Stud visitors welcome.**  
**Photos/Catalogue on website.**  
Free delivery of Stags within South Island & North Island for sales over \$3,000ea.  
Refreshments 11am, lunch 2pm.  
Complimentary flights available.

**Phil Dawson** 021 441 445  
**Alastair Porter** 021 99 55 88  
**Office (Vicky)** (03) 442 3084  
**E:** manager@remarkablestags.com

### DEER IMPROVEMENT BV Sires OF 2012/2013 STUD STAGS

Sire	BV	R-Index
Luciano	19.7	20.16
Bremen	19.1	20.12

### DEER AGENTS PGG WRIGHTSONS

Ron Schroeder (027 432 1299)  
Brian Duggan (027 432 4212)  
Brian Newall (027 595 6448)  
Brenden Johnston (027 241 4179)  
Graham Kinsman (027 422 3154)

**JOHN DUNCAN DEER**  
(027 432 2881)

WWW.REMARKABLESTAGS.COM



CRAIGIE SON  
28/11/2012

Zino brothers: continued from page 19

## Don't chase a falling schedule

Wayne Allan explained how economics showed the best strategy was to kill down to reasonably light weights while the schedule was at its peak. "We did not think we could keep up with a falling schedule as we would have to put too much more weight on just to break even and that feed could usefully go into something else."


For example, with a schedule dropping 20c/week from a peak of \$8.80, a 48kg carcass would lose \$9.60 in value each week. Then every animal would need to gain 1.1-kg carcass weight weekly just to hold its value. That was equivalent to 1.9kg liveweight, or a weight gain of 270g/day, with a corresponding feed cost. "In fact heavier animals have to grow even faster to keep up, as the 20c/kg fall is cumulative over more kilograms," Allan said. "A 55-kg carcass losing \$11 a week in value needs to make 2.2kg more growth, which is 315g/day, just to maintain value, let alone become more profitable. If the schedule drops by \$1.50 or more per kilogram (as forecast) deer may need to gain 17–20kg liveweight to be the same value. This may consume up to 300kg DM per head which, at 18c/kg, has an opportunity cost of around \$60 a head. This feed can be better used

for another purpose – in this case Sam will be using it for lambs."

Accordingly they decided back in June to have a large kill in October then let the contract drop and reassess the situation. "We haven't had that discussion yet but it's likely we will look at putting more weight on." In conjunction with Firstlight, the Zinos are also carrying out a trial to compare autumn with spring killing, and this will be reported on after the next field day.

## Good autumn growth the key

Asked how they achieved such a large early kill, Sam said the key issues started with good feeding through late lactation and good autumn growth rates from weaning. "It was the autumn growth that got us through this season, putting on an extra 9kg through that period." Good feeding during late lactation and pre-weaning also allows the hinds to take the stag earlier. This was reflected in scanning results, especially with MA hinds which were also 11kg heavier.

The field day also featured a presentation on genetic selection by John Rendel of Agresearch (see "Genetic choices") and was sponsored by **Firstlight, Mountain River** and the **North Canterbury Branch, NZDFA**. 

## Scanning helps management

*Kanuka Downs* is the scene of a neat experiment to improve stock management by pregnancy scanning hinds twice and undertaking fetal aging. Scanning combined with reliable data recording enables the hinds to be divided into two or even three management groups depending on when each animal becomes pregnant during the season. Mobs of mixed-age animals can be rotated while in-calf then set stocked at the optimal time in the sure knowledge that they will all calve about the same time. The tighter calving spread for each group (whether early or late in the season)



Fetal scanning has enabled this mob of 265 hinds to be split off as "early fawners". All were known to be pregnant by 4 April and therefore due to have almost all calved by the end of November. In late October they went through the shed for weighing and selenium supplements before being set stocked for fawning.

means they can be managed better. It was planned to start rotating the early hinds and fawns on lucerne from around 10 December. This gives the animals a good start in life and enables later weaning of later-born fawns and earlier weaning of earlier-born calves if required.

The arithmetic follows simply from the rule of thumb that gestation is 233 days for red x red and 240 days for red x wapiti (in both cases  $\pm 10$  days) and a fetus can be identified by ultrasound from 25 days after conception.

Fetal aging can be achieved by a single scanning, but Sam Zino opted to undertake two. Animals shown the stag sooner than normal (20 March) became pregnant earlier. Sam's first calvers, 2/3s and MA hinds were all scanned on 10 May to identify pregnancies before 4 April (282 out of 537) and the balance were re-scanned on 4 July, with just 16 dries in total, (four yearlings and 12 MA hinds). It was estimated that more than a quarter of the MA hinds were already pregnant by 20 March and 63 percent conceived before 4 April, while all but nine of the first calvers were still dry. The balance of the MA hinds conceived after 4 April with only 12 dries (2.6 percent, mainly made up of rising second fawners). The maiden hinds conceived after 4 April but only ended up with four dries out of 91.

Allan explained that in practice this could enable set stocking 10 days earlier with hinds that were known to be carrying calves that would be born early. "Fetal aging helps you move hinds onto a rotation earlier with confidence, knowing no late fawns are being left behind. Utilising the lucerne we may be able to gain 5kg per weaner this way."

However, the scanning isn't useful everywhere, he said, for example when farming in an extensive situation where

Continued on page 21




Scanning: continued from page 20

you put your hands out and don't worry about them until weaning. "But where you can bring stock in and manipulate their nutrition, it's a hugely powerful tool. We've had ultrasound scanning for 20 years for use with stud animals. Now this offers a new use in the commercial meat production situation."

Sam Zino said the extra scanning enabled the earliest possible manipulation of feed management.

"Early-fawning hinds mixed in with lates are effectively being punished with feed quality as they try to feed their new fawn while waiting for the others to catch up. Better division into management groups means the hind will

be in better condition at weaning time and the benefits compound as she is then more likely to conceive earlier.

"Another benefit is risk reduction in a dry season. If we have a line where the fawns are all of very similar age, we can opt to wean them in early to mid February (three weeks earlier than last year) and put them early on a finishing block. We know from last year that as lactation advances, our fawn growth rates drop off. These fawns will go through the least growth check when weaned early, but they do need to be similar in age for this to work well. This gets condition back on to the hinds without affecting fawn weights." 


## GENETIC CHOICES

AgResearch geneticist and farm system scientist, John Rendel, asked farmers present to write down and rank the most important heritable qualities in deer. The collated data showed the main issues were reproduction, growth, adult size, meat production and disease resistance. In the discussion that followed he explained how environmental and genetic issues needed to be clearly distinguished. For example, farmers saw hind size as a high priority but this involved not only genetics (breed/strain) but also environment (conditions that fostered liveweight gain).

"With a fixed feed supply you can run fewer animals and grow them bigger – that's genetics. Or you can grow more feed and run more animals – that's management. You need to consider all the tradeoffs."

He said this posed challenging questions like why use our scarce genetic resources to

further raise fertility if it's already possible to achieve a 98 percent pregnancy rate?

"There's only a gain of 2 percentage points available, while increases are theoretically open-ended with traits like carcass weight." In the short term, management provided the biggest opportunity for improvement while progress through genetics was on a longer time scale. "You're always two generations behind your breeder so you should use the youngest hinds possible to breed your replacements. Stag selection needs to be simple, so use the breeding index, which incorporates most of the important values." Regarding stock brought in, it was worth developing a long-term relationship with a supplier to avoid lower-quality cull animals, he said. "The people you buy from need to have similar genetic objectives and environment. The environment doesn't matter so much with the stag purchase as it is his progeny that you want, whereas with hinds you require them to perform almost immediately." 

# WITH YERSINIOSIS, IT'S ONLY A QUESTION OF WHEN.



## VACCINATE NOW BEFORE IT'S TOO LATE.

It takes little to trigger yersiniosis in weaner deer, which rapidly leads to bloody scours and death. *Yersinia* bacteria are always there, waiting, and there's nothing that you can do to eliminate them. But you can protect against the disease with Yersiniavax®.

**For more information, ask your local vet.**



AVAILABLE ONLY UNDER VETERINARY AUTHORISATION. ®Registered trademark.  
MSD Animal Health Phone: 0800 800 543. YER-488-2012



# Peel Forest Estate open day

■ by Phil Stewart, *Deer Industry News* Editor

If your confidence in the deer industry was wavering, a visit to *Peel Forest Estate's* open day on 25 October would have well and truly restored your faith. The 160 or so visitors and strong media contingent were given insights into environmental progress on the property and a strategic refocusing of the business's priorities for deer genetics. They were also invited to the official opening of *Peel Forest Estate's* brand new deer shed by Sir Tim Wallis and an afternoon seminar focusing on meeting the challenge of Johne's disease.

Welcoming guests to the day, *Peel Forest Estate* owner, Graham Carr, explained how far the business had evolved since he purchased the 600-hectare sheep and beef farm in 1987.

"At the time I was getting just \$8 a head for my first draft of lambs and I was bringing aboard my first eight 'gold-plated' Mount Somers hinds," he recalled. "A farm adviser might have suggested there was more upside to sheep than deer at the time, and they would have been right!"

Carr persisted, however. The sheep are all gone, a neighbouring farm has been purchased, growing the Estate to 1,050 ha, supplemented by a further 280 ha of leased land. The purchase of a 1,200-ha hill block is being finalised to bring better balance of land classes to the operation. There are about 7,000 deer on *Peel Forest Estate*, mainly stags. Deer make up 90 percent of the stock units, the rest being cattle. Carr said that there will eventually be 17,000 – 20,000 stock units.

He said that while *Peel Forest Estate* has been well known for its dual-purpose animals and big-antlered trophy-type stags, there has been a major shift in focus to providing genetics for the "grass-roots venison producers". These are developing around its B11 terminal sires and Forrester maternal sires. The velvet and trophy industries were nonetheless important (*Peel Forest Estate* cuts about nine tonnes of velvet each year) and the stud will still supply stags from its Furzeland and Windermere bloodlines.

## Environment awards

The first part of the day celebrated *Peel Forest Estate's* achievement of two environment awards received in 2010: the **New Zealand Farm Environment Award Trust Livestock Farm Award** (the Ballance Award), and the **Firstlight Foods Environment Award for Total Commitment to Sustainability: environmental, farm and social and innovation** (part of the biennial New Zealand deer industry environment awards).

Carr said the property provided environmental challenges, including four creeks zig-zagging across it. While having water in every paddock via a creek used to be a selling point, it was now a liability. He was spurred into action after getting a "rude letter" from Environment Canterbury (ECan) about the water quality coming off the property. The deer loved the spring-fed creeks and wet areas and something needed to be done. Working with ECan, *Peel Forest Estate* got permission to divert two creeks into a third one, creating a pond and reserve area to provide fill for the two "retired" creeks.

There are now two creeks running through the property, with double fencing for each of them almost complete.

Carr said the work was carried out with the full cooperation of neighbours, one of whom commented that the water coming off *Peel Forest Estate* "was the best he'd seen in 45 years".

**Rebecca Hyde** of Altum (formerly Ballance and Summit Quinphos) said the 2010 Ballance Award recognised environmental management and nutrient management for its Livestock category award. In particular it commended *Peel Forest Estate* for recognising the large natural wet area and plans for stock exclusion and conservation in its natural state through an ambitious programme of fencing and conservation to protect water quality and prevent soil erosion. She said the award also noted the animal welfare benefits of extensive plantings of well-kept shade trees and use of deer matting, well designed lanes and good handling facilities.

Other features that caught the judges' eyes were the movable barriers for silage self-feeding in winter, programmes for soil fertility and stock trace element testing and monitoring for pasture and stock nutrients and health management. Good feeding had supported pleasing weaner growth rates at Peel Forest.

Suggested improvements included protecting areas of exposed soil near the farm offices – a suggestion since acted on. Hyde encouraged other farmers to enter the awards. Graham Carr said entering the awards had helped his transformation from a state of acute embarrassment to one of pride in the property.

He noted that keeping deer out of the water helped reduce faecal contamination and thus the amount of challenge from Johne's disease. "The work cost a bit, but you don't have to do it all at once. It's an investment in the property and a huge source of pride. There's no down side."



Paradise ducks at home in the large pond created during the environmental enhancement work.

Continued on page 26



Graham Carr with Rebecca Hyde, Altum.

Introducing the Deer Farmers' Environment Award, DINZ Producer Manager **Tony Pearce** noted that DINZ had taken over the support of the biennial award programme in conjunction with NZDFA, following the passing of Sir Peter Elworthy, who inaugurated the awards in 2000.

He reminded farmers that the Deer Farmers' Landcare Manual had been updated in 2012 and incorporated the Beef+Lamb New Zealand land environment management system, which is built around identifying and addressing risk. Lead judge **Janet Gregory** (New Zealand Landcare Trust) said it was important that good news stories such as this one are told. Partnerships with organisations like ECan were also important. Gregory said *Peel Forest Estate* had done great work improving water quality, and acknowledged the job was still to be finished – establishing riparian and wetland plantings for example.

"The judges were really impressed with the risk identification and planning that Graham did, as well as his attention to animal welfare, particularly with the range of breeds and age classes here."



Water quality has improved markedly in the water courses at *Peel Forest Estate*.

**Gus Irvine**, of sponsor, **Firstlight Foods**, presented the Merit Award.

**Marty Mortiaux**, Regional Manager Implementation and Coordination, ECan, said Carr's achievements over the past few years had been "remarkable". He explained ECan's water management strategy put responsibility for water quality and quantity with the people who live and work

in the region, to meet the environmental limits that the regulator had to impose. *Peel Forest Estate* was in one of 10 management zones each of which had a local committee that put forward a "zone implementation programme". The new Land and Water Regional Plan for Canterbury set some bottom line limits, but there was room for individual zones to seek changes within that limit – for example the amount of intensification possible. "We'll try and raise farming practices to a standard of good practice." ECan would be encouraging best practice on farms and he praised Graham Carr for taking positive action following his earlier prod over water quality.

Mortiaux said ECan was not wanting to be dictatorial and sought a more collaborative relationship with farmers. He noted that although funding isn't available for on-farm work that is required anyway – fencing off waterways for example – there is funding for biodiversity work such as riparian plantings.

ECan Implementation team member **David Hewson** said there had been a big improvement in water quality. A pond in the "Goose" stream had been "running with silt". "You've done a great job of implementing what we planned together."

He said that once areas had been fenced off they still need managing. For example, an invasive type of pussy willow was starting to become a nuisance. "If you keep on top of the broom and willows and so on, it won't turn into a big job."

## Finishing block

*Peel Forest Estate* Manager, Steve Blanchard, said the finishing block was a self-contained unit, with the weaners coming from the *Lincoln Hills* breeding unit at Mount Somers. About 95 percent of these were B11 progeny, with the balance wapiti he said.

Blanchard said the block is a "grass factory" and in last year's exceptional growing season they finished 2,500 lambs as well. He said the breeding cows had been sold, but with the purchase of the adjacent hill block they would probably buy more cows, which could also provide complementary grazing.

Weaner deer were usually on the finishing block by mid March, moved during fine weather. They take 1,400–1,500 weaners each year, usually at an average of 64kg. By mid October about 850 were already off the property and on their way to Germany. A paddock of B11 progeny still on the farm was averaging about 126kg liveweight.

A line of B11 R1 stags was averaging 132kg by early October – the heavy rain in early August had held them back in early spring and there was also a worm challenge this year. "They just flew away once we re-drenched." Blanchard said the B11s last year were averaging 161kg at the end of November and this year's would come close.

Heifers were used to help with pasture control, silage was taken off and lambs could be brought in if there was still surplus feed. They use short rotations and have an aggressive pasture renewal policy with no pasture more than nine years old. In winter the weaners are break fed on saved pasture with the medium to bottom end being put on fodder beet.





Peel Forest Estate three-year-old B11 stags.

Blanchard said it was crucial not to leave animals on fodder beet for too long. After about 80 days they could start going backwards quite quickly. "We're very happy with it though – it's a lot of production from a small area. You just need to manage it carefully."

The top weaners were isolated from mid June and pushed "pretty hard". They got 250–300g of barley per day and were strip grazed on saved pasture, being moved every two or three days.

"These B11 cross wapiti-type animals are ready to grow earlier than the reds if the feed is available." Blanchard



Peel Forest Estate Manager, Steve Blanchard (with microphone), said the finishing block is a "grass factory".

said that in addition to the wapiti component, the B11 incorporated good growth rate EBVs, featuring European sires such as *Atlas* and *Voltamir*, and the English stag *Toby*. "With the B11 we're looking for an animal that is not tall but has a good depth of body and can get out and mate early. Initially they were too tall, and we've got some of the leg out of them. It's an exciting breeding programme developing a composite – there are no boundaries. If you're lacking something you go out and find it."

Continued on page 28

## PGG Wrightson Velvet



### Why consign your velvet to PGG Wrightson?

- Secure processes for full payment back to suppliers.
- Prompt and prioritised payments.
- Experienced nationwide team of agents, skilled graders and exporter/sellers.
- Consolidated velvet to meet buyer requirements.
- Informative updates.
- Annual Principal Sponsors of the National Velvet Competition.
- Long, established reputation within the market.

#### PGG Wrightson Deer Specialists and Agents:

**Graham Kinsman**  
Stud Coordinator  
Phone 027 422 3154

**Keith Burden**  
Hawkes Bay  
Phone 027 597 5801

**Ron Schroeder**  
North Canterbury/  
Marlborough/Westland  
Phone 027 432 1299

**Brian Newall**  
South Canterbury  
Phone 027 595 6448

**John Williams**  
Otago  
Phone 027 241 4179

**Brian Duggan**  
Southland  
Phone 027 432 4212

**Russell Cockeram**  
Southland  
Phone 027 228 6950

Freephone 0800 4 835 838 [www.nzvelvet.co.nz](http://www.nzvelvet.co.nz)

Helping grow the country

## Hardy female base

Steve Blanchard said they were looking forward to putting breeding hinds on the new hill block. "We need a more efficient hind these days. We were lucky in the early days to be running deer on some pretty good land, but increasingly we will be using more marginal hill country and we need the right type of hind. They don't need to be that big, but they need good growth rate ability, to carry good body cover and to get back in fawn. Some breeds won't do that."

Blanchard said the Forrester maternal sires were bred to provide hardy replacements that could perform well in challenging conditions.

## Making a statement

Introducing the official opening of *Peel Forest Estate's* new deer shed by Sir Tim Wallis, Silver Fern Farms CEO, Keith Cooper, said it was very important to build good news stories about the environment and animal welfare behind venison and get that story in front of consumers. He noted that the supermarkets in overseas markets are "the biggest



Keith Cooper, Silver Fern Farms.

regulators". He said meeting high ethical standards didn't necessarily earn a premium, but was rather a prerequisite for market access. "Doing the right thing is just what we have to do."

He said the emphasis on measuring and monitoring at *Peel Forest Estate* tied in well with the FarmIQ model. Through FarmIQ and BeefEQ was still work to be done to help understand what contributes to a good eating experience and then deliver that consistently to consumers.

Cooper said the venison season is looking good, beef was performing well and lamb was on the rebound.

Graham Carr said that when planning the new steel-framed deer shed they resisted the temptation to build a dual-purpose selling complex and deer shed. With a target of up to 3,000 stags to handle for velvetting each year, producing up to 10–12 tonnes of velvet, they needed a good facility that could handle the numbers and ensure cutting was done correctly.

He briefed the architect David McBride to build something that was functional, suitable for hygienic handling of a food product, aesthetically pleasing and in keeping with the other buildings on the property. He also wanted something to set it apart so that it didn't look bland. The architect took the challenge seriously, and delivered an impressive pergola built with massive half-tonne macrocarpa beams.

Sir Tim Wallis said the new shed reflected Graham Carr's entrepreneurial spirit and perhaps also the attention to detail inherited from his father, a joiner and manufacturer in Yorkshire. He recalled how Graham had consulted Mike Pattison, then CEO of the Game Industry Board and Mark Acland, who advised him about the impending sale of Peel Forest Estate, an opportunity he was quick to seize. Sir Tim said a drive around the property showed the value of the team he worked with and his entrepreneurial instincts at work.

### Coming events

Date	Event	Details
26 January 2013	Elk/Wapiti Society & Fiordland Velvet competition	Fiordland branch, DFA, and EWSNZ will hold their annual velvet competitions featuring the Inaugural Antler Art Award, a fashion show featuring garments designed with deer hide and catering provided by Flying Trestles (Wanaka DFA conference caterers). Tickets \$75 and numbers limited to 130. Venue Te Anau Events Centre. Contact Dave Lawrence: info@tikana.co.nz, 03 236 4117
29 January 2013	Canterbury Focus Farm and Canterbury Branch NZDFA parasite workshop led by Drs Dave Lawrence and Colin Mackintosh.	Venue and timing details to be advised contact Wayne Allan, facilitator 027 434 1790
8 February 2013	Canterbury Focus Farm	Zino brothers property, North Canterbury. Topics: review of summer on farm, early lactation and weaner growth, animal health plans.
16 February 2013	Rising Stars 2013	Waipa Racecourse. Contact Shelley Lawson for more information on 07 873 2763, huntingdon1@xtra.co.nz
Mid February 2013 – date TBC	SCNO Focus Farm	Topics: Soils and seeds, following on from Clayton Station discussions. Contact Nicky Hyslop, 0274 744 149
7 March 2013	Northern Regions field day	Brian and Jacqui Wellington's, Te Awamutu Station. Contact Mike Woods, 0272 888 987
23–24 May 2013	Deer Industry Conference	Amora Hotel (previously the Duxton) Wellington. For more information contact amy.wills@deernz.org, 04 471 6110





The rebuilt deer shed.



Graham Carr with Sir Tim Wallis at the opening of the new deer shed.

## New home for Windermere genetics

The Windermere Warnham herd has been kept together following its purchase by Peel Forest Estate, and would be a great asset to the stud and the velvet industry, said Graham Carr. Windermere's John Kempthorne said he had started with deer in 1980 and recalled that in the early years you could sell any deer for any amount. "We sold a line of nine in-fawn first calvers out of the bush for \$5,000 each."

The changed livestock taxation regime in the mid 1980s meant deer farmers had to work harder and it was not long before Kempthorne was building his stud herd with James, a son of Stanfield's Ramasses, a foundation sire. He said developing good genetics for the velvet sector was challenging, as industry preferences could be fickle.

Showing the velvet from his sire Walton at six years, Kempthorne said the stag was his "best ever", with the characteristics of low bez and high trez tynes and plenty of room above the trez. Peel Forest Estate now had all but two of Walton's daughters – and Walton himself. You had to be a little crazy to run a stud, but also very focused on what you wanted to achieve, he said, noting that good velvet lines were being "corrupted" by trophy genetics. Spotting good females was important and had taken many years. Once good dams were found, embryo transfer programmes had helped multiply their genetic contribution. He was delighted that the Windermere Warnham velvet stud herd was staying together. 🐾



John Kempthorne with velvet from Walton at six years, when he cut 12.5kg. The head won the North Island Velvet Competition in 2011.

## Watch on YouTube!

Graham Carr, Peel Forest Estate, discusses environmental enhancement work and good venison genetics on:

<http://youtu.be/AJdR6wLQE3k>

## CONNEMARA VENISON - VELVET - TEMPERAMENT



## 2ND ANNUAL SIRE BULL Auction

Sunday – 13 January 2013 at 2.00pm  
On the property at MI & BM Hagen,  
Weir Road, Manapouri

On offer approx 36 – 3 & 4 year NZ &  
Wap X Bulls

Enquiries: Murray Hagen 021 220 7889  
Jim Cameron 021 0278 8857  
Auctioneers: Peter Hishon 0275 341030



# Griffin challenges industry to support Johne's research

■ by Phil Stewart, *Deer Industry News* Editor

Johne's disease (JD) has cost *Peel Forest Estate* close to \$2 million, but work to identify JD-resilient and JD-susceptible bloodlines, in collaboration with Frank Griffin and the team of scientists at the Disease Research Laboratory (DRL) in the University of Otago, has created new opportunities for the stud and the deer industry. At the *Peel Forest Estate* field day on 25 October, Griffin explained the importance of the unique scientific collaboration between DRL and the stud, and asked deer farmers to support research to build on this work and develop tests that will harness the power of genetics to get on top of Johne's.

Griffin said nature always selects against disease-susceptible individuals – only a few generations ago about half of the children born succumbed to infectious disease before reaching adulthood. But farming and modern medicine changed the rules.

"Now all kinds of exotic diseases are emerging because we've limited the gene pool. Pasteur said it wasn't just the bug, but the constitution of the individual that determined whether they survived. Genetics determines our response to disease."

In the case of JD and deer, Griffin said resistance and susceptibility to the disease appeared strongly heritable. There was also a genetic component in the animals' response to bovine Tb caused by *Mycobacterium bovis*. In work with Colin Mackintosh from 2001, progeny from identified resistant (R) and susceptible (S) sires were challenged and there was a clear difference in the Tb lesion scores of the R and S progeny, with unselected animals falling somewhere in between.

Griffin said the heritability of Tb resistance was 0.48, a very high number in genetic terms, but that early work never really went anywhere. As Tb prevalence has decreased, attention has swung towards JD, which emerged in the 1990s when a Southland farmer was getting high numbers of false positive Tb reactors that were in fact infected with JD.

He said about 60 percent of New Zealand herds were infected, but only a small number were affected by losses from clinical JD. Subclinical disease affected production and reproduction in deer herds and the impacts of infection were increased by environmental stressors as well as the host's genotype.

"Most animals that are infected don't become infectious or diseased and you may not see any obvious evidence of JD."

Griffin said the research effort was not directed at eradicating the bug that causes JD, *Mycobacterium avium* subsp. *paratuberculosis* (MAP), but rather at eradicating the clinical impact of the disease.

There were various options for diagnosis, but polymerase chain reaction (PCR) was a clever way to detect the DNA of MAP, and to identify the degree of infection. He said the ELISA test, which identified disease antibodies in deer, didn't necessarily indicate the volume of MAP that were being shed. The PCR test could do that however.

Applying the ELISA test to identify infected animals in the early JD-infected herds looked quite promising, with numbers of JD-infected animals dropping in successive years.

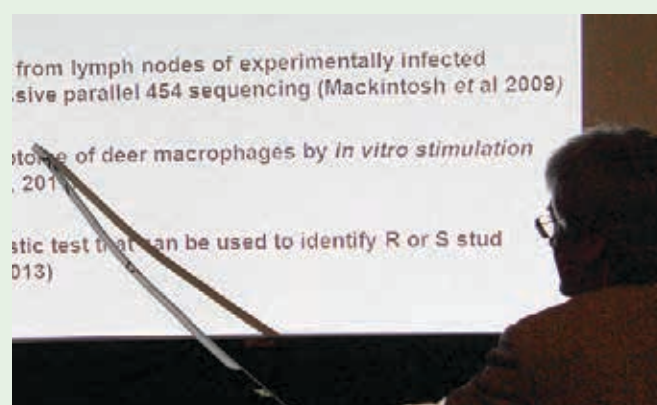
Unfortunately this didn't work so well at *Peel Forest Estate*. In the first year of JD testing a 2,000-strong herd, 23 percent were identified as reactors. Following a culling programme, Griffin confidently predicted this figure would fall to around 5 percent in year two. It didn't. A sample that year showed the reactor rate had climbed to 27 percent. But, as has previously been reported in *Deer Industry News*, the poor result came through serendipity – tracing the bloodlines of the infected and non-infected animals at Peel Forest Estate revealed the presence of R and S sires, something that the stud now uses to promote its JD-resilient sires.

Griffin said the experience had shown a stark difference in resistance to JD among different groups of animals farmed in the same conditions – great experimental conditions. Revisiting the results from the first year of testing confirmed the differences between different breedlines in response to

## Further honour for Griffin

Following his 2010 award of the Sir William Pickering Medal by the Royal Society in recognition of three decades' work in Tb, Yersiniosis and Johne's disease in deer, Frank Griffin has been elected a Fellow of the Royal Society of New Zealand, one of only 11 top researchers and scholars in this country to be honoured this way in 2012.

The Royal Society's Academy Chairperson Professor Le Heron said: "Being elected as a Fellow is an honour given to our top researchers for showing exceptional distinction in research or in the advancement of science, technology or the humanities".



JD. Earlier mortality figures among weaners also fitted the pattern.

A trial by Colin Mackintosh to check disease severity in experimentally infected progeny – nine each from an R and an S stag – further confirmed the high heritability of resistance and susceptibility to JD, Griffin said. The hinds were not selected for resistance/susceptibility, only the stags, but seven of nine progeny from the R stag were likewise resistant to JD, while eight of the nine S stag progeny were also susceptible.

Griffin said work now focuses on the genes that were expressed in the R and S animals to see what genes are being switched on and off in the face of disease challenge.

"I'm hoping that within the next year we should be able to bring this together to say what a truly resistant and susceptible animal looks like." By looking at the behaviour of immune cells in R animals (the specialised cells that mount a defence against infection) it is hoped to be able to produce a diagnostic test to identify R and S stud animals, he explained. "We can measure all the genes inside that cell on a given day – the transcriptome." This work was being carried out at Otago by Brooke Dobson, who had just completed her PhD.

Griffin said S animals appeared to mount an abnormal inflammatory response to *MAP* infection, while R animals showed an adaptive immune response – producing the right kind of cell-mediated protective immunity.

He said there could be hundreds of genes involved – the key was to identify the right response at a cellular level, not identifying specific genes.

Neither the sheep nor cattle industries had been able to replicate the achievements identifying R and S genotypes in deer, Griffin said. That was because of a "beautiful coalescence of a crazy man who wanted to preserve certain genotypes" and a "wonderful incursion of infection". By letting infection have its way, the R and S animals were found at *Peel Forest Estate*. For sheep and cattle there was never the level of infection or purity of genetics available to deliver a result like this.

"Graham [Carr] has provided an amazing resource for the industry," Griffin said. The experimental infection of R and S progeny was being repeated this year, and similar results were being seen, with S progeny excreting prodigious amounts of *MAP*. By removing these shedders and reducing the challenge, truly resistant animals won't become diseased, he said.

While undoubtedly exciting, the Disease Research Laboratory at the University of Otago had entirely funded the recent research to the tune of \$350,000, Griffin said.

"There's been no [external] money invested in our programme for the past 15 months. We can't keep doing it on the smell of an oily rag."

He challenged the deer industry to put its hand in its pocket to support the development of a test for JD resistance and susceptibility. "If you don't, our laboratory will stop doing this work from January next year." Griffin was most grateful for initial support for this work by the John's Disease Research Consortium but that funding stopped in July 2011.

He said there may be no scientists involved in animal health research in the deer industry within three years. "It's the most exciting times of our lives but also the most frustrating," Griffin said four excellent PhD students had been produced over the past decade. "They all want to work in large animal health research – but I don't believe any of them will ever return to New Zealand. It's important that we don't lose people like this."

As a postscript, Griffin acknowledged Dave Allen of Wanaka for work he was doing introducing R and S genes on his property, which would give a useful indication of real-world behaviour of disease in these animals.

In conclusion, Graham Carr urged the deer industry to get behind the DRL and support their research work. 🇳🇿



## WAPITI VENISON SIRE SALE

TUESDAY 22<sup>ND</sup> JANUARY 2013, 1 PM

On offer, a good selection of 3 year old Fiordland and NZ Wapiti, and Red/Elk Cross Bulls

**475 SOLDIERS ROAD, LOWER KAIMAI, TAURANGA**  
(note new address)

All deer TB and John's tested

Our C8 TB status will have no negative impact on the destination herd's current TB status.

Mike Steiner: 027 439 2444 or 07 543 3709

Graeme Churstain: 021 735 857

Harley Steiner: 027 431 7431 or 07 571 5536

Paul Lampp: 027 442 6477

# Venison Supply Systems Programme: A beginner's guide

DINZ Science and Policy Manager, **Catharine Sayer**, asks AgResearch's **Geoff Asher** some serious and not-so-serious questions about the Venison Supply Systems Programme (VSSP).

**Sayer:** *How would you define the VSSP in a Tweet?*

**Asher:** The VSSP is a research, development and adoption (RD&A) project aimed at improving profitability of the New Zealand venison industry from farm gate through to processor. Its main focus is new knowledge that can help overcome constraints to productivity or maintain freedom to operate. The VSSP is the deer industry's main investment in venison RD&A, and is the product of a partnership between DINZ, the NZDFA and AgResearch administered through DEEResearch. Third party funds (e.g. from Landcorp) are also thrown in. (That's about four Tweets' worth Geoff, but we'll let it pass. Ed.)

**Sayer:** *Business suits, lab coats, overalls or cardigans – how would you split up your researchers' typical 9–5 attire?*

**Asher:** There is no typical day or attire in this vocation! Staff time is often split between office work (e.g. data entry, report writing), field work (mainly in the deer yards, often on commercial farms) and field days (each staff member attends five to ten field days per year, usually to give presentations). My time is also engaged in management – funding issues, coordinating co-funders and collaborators, or helping with wider industry issues. Even when the plan is to catch up with office work, it is not uncommon to be dragged into the yards so it's pointless wearing the Sunday best to work.

**Sayer:** *How is the programme set?*

**Asher:** The VSSP is a 6-year programme structured around themes. However, planning around projects, including the setting of milestones to measure progress is done annually. We usually set up a strategy workshop involving the research people and key industry people. From this we prioritise projects and their milestones. These then go to the DEEResearch Board for discussion and feedback. The board must ratify projects before they can go ahead.

**Sayer:** *What are the main themes of the programme?*

**Asher:** The overall theme is *productivity improvement* to lead to greater on-farm and off-farm *profitability*. The largest investment within VSSP is in genetic improvement for sustainable, long-term productivity improvement.

Other areas we focus on include:

- *overcoming constraints to productivity* (e.g. parasites, reproductive productivity, nutritional management)
- *understanding complex systems for improved economic and environmental sustainability* (e.g. hill and high-country systems, whole-farm systems modelling)
- *better knowledge uptake and practice change* (e.g. Focus Farms, Productivity Improvement Information Hub).

**Sayer:** *Do the research needs of the wider deer industry differ from the research needs of a producer in a paddock?*

**Asher:** The VSSP takes an “industry-good” approach but acknowledges the need to always look at current issues affecting individual farmers.

While most producers look one or two years ahead and generally want solutions to immediate issues, we as researchers also need to take into consideration what the industry might need in 10–20 years. We are committed to a “balanced portfolio of research” that encompasses a range of work from technology transfer and adoption (immediate needs), applied research to fix current issues (1–2 year need) and basic research (new options for the industry over the next 10–20 years).

As we move along this spectrum from adoption to applied to basic science, the risk around predictability of outputs and outcomes increases; if it wasn't the case, we wouldn't need to do the research! However, with increasing risk there is the possibility of greater reward, for example investment in genomics research may one day revolutionise genetic management of our herds.

**Sayer:** *Any new projects this year?*

**Asher:** Two new projects are:

- toxoplasma vaccination with a view to reducing fetal wastage in first calving hinds
- whole-farm systems modelling of deer production to better understand how we can realistically achieve sustainable increases in productivity from deer integrated with other livestock species.

**Sayer:** *Unsung heroes: which projects appear unsexy on paper but get producers really interested?*

**Asher:** The one that stands out is our nearly-completed study using GPS technology to track movements and calving behaviour of hinds in hill and high country. All sorts of deer farmers (even those not in the high country) seem fascinated by this work. Deer behaviour interests everybody.

**Sayer:** *Herb and mustard-crusted Cervena venison medallions or a slow-cooked venison (shot by yours truly) and wild mushroom stroganoff?*

**Asher:** I won't comment on the source, but I like simple recipes. My favourite way of cooking venison is on the barbecue, in particular, hot searing of a portion of loin, rare and lightly salted. I also enjoy Moroccan flavourings. 🍴



Geoff Asher enjoys hunting success – deer are a big part of his professional *and* recreational life.



# Experts brought together for Johne's science forum

■ by Phil Stewart, *Deer Industry News* Editor

It was quite a year in 1912. Scott and his team perished in Antarctica; the *Titanic* sank; and the first case of Johne's disease was identified in New Zealand – less than 20 years after the disease had been discovered. The centenary of Johne's disease (JD) in New Zealand was hardly cause to break out the bunting, but it puts the history of the infection in New Zealand in an interesting context.

At a Johne's Disease Research Consortium (JDRC) Science seminar in Wellington last month, LIC's **Hinrich Voges** told a gathering of scientists, academics and industry representatives that despite predictions during the 1930s that JD could be like foot and mouth disease, the dire warnings were never realised.

## Rare in dairy industry

He said clinical disease is rare in the dairy industry and that could be partly due to changed farming practices that are less conducive to spread. Nonetheless, practices such as using pooled colostrum (JD can be spread via milk) could be risky if a "super-shedder" was in the milking herd.

Because New Zealand's dairy systems are unique, the industry needed to develop its own techniques for managing the risk of the disease, he said. It would require intensive monitoring through testing bulk milk and pooled faecal samples to identify problem herds and take appropriate steps to remove cows that shed high numbers of the causative bacterium: *Mycobacterium avium* subsp. *paratuberculosis* (MAP).

## Challenges with diagnosis in deer

And the bugs can be shed in prodigious numbers. **Colin Mackintosh**, AgResearch Invermay, told the audience that shedding rates of up to 1 million bacteria per gram of faeces were not uncommon. He noted that unlike cattle and sheep, where infections were usually subclinical and chronic, deer tended to go down faster and more acutely, usually to the bovine strain of MAP.

He said that while JD had been seen regularly in sheep and cattle since the 1950s (the 1912 case was an isolated one in an imported Jersey cow), JD didn't emerge in farmed deer until the 1990s.

Because MAP was a subspecies and very closely related to both avian and bovine tuberculosis, it was difficult to differentiate, Mackintosh said. The animal's immune system took a while to start producing antibodies, and the infection was usually well established by the time it did. Gross pathology and histology were the gold standard for JD diagnosis, but these were of little use in live animals. For live animals faecal culture with polymerase chain reaction (PCR) analysis, or serology – either the ELISA or Paralisa® test – are the most reliable tests. However, the animal's immune system takes a while to start producing antibodies, and the infection is usually well established by the time they are, such that serological methods (which rely on the presence of antibodies) may be too late.

## Persistent in environment

Mackintosh said MAP can infect animals via milk, in utero, or through faecal contamination of pasture or water. The bacteria can persist in the environment for up to 12 months. As well as the volumes of bacteria being shed, the likelihood of disease spreading was influenced by a variety of factors including exposure to stress and genetic predisposition to resilience or susceptibility.

# The highlights of 2012 with JML

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

The festive season is an opportunity for JML to reflect on the past 12 months and look ahead. With farmers in the middle of their busiest months, JML's focus shifts in-house to evaluate the year that was, and to fine tune plans to make the most of 2013. The following highlights of 2012 can be best summarised as substantial growth in the uptake of Johne's disease risk management plans (JD RMP), and in the Johne's Consultant Network, for a lower cost to the industry.

From 1 January 2012, the voluntary contribution to the JML programme was reduced from \$1.00 to \$0.80 per head. This reduction enables programme funding to be a closer match to operating cost and all services provided under the higher contribution will continue with the lower one.

There was a four-fold increase during 2012 in the number of farms either using a JD RMP or in the process of establishing one. Eighty-eight farms are now listed with a JD RMP and the deer from these properties represented 48 percent of the JD-suspect lymph nodes identified in the 12

months to June. Many of these new farms have taken on a plan in response to two major initiatives this year by JML.

The first initiative was to contact all herds that had a JD-suspect lesion prevalence of 2.5 percent or higher and discuss JD levels with the farmer and an appropriate risk management plan. Of the 68 farmers contacted either personally or by phone survey, 33 agreed to implement a JD RMP and 10 more will be revisited in early 2013 to discuss the possibility of a plan in light of their latest processing data.

## Co-grazing risk

**Cord Heuer** of Massey University presented information about the epidemiology and prevalence of Johne's disease in New Zealand. A Massey survey, done as part of the JDRC science programme, showed evidence of infection in 76 percent of sheep flocks, 43 percent of beef herds and 50 percent of deer herds. The number of farms showing evidence of clinical disease was lower, with 39 percent of deer farms having clinical disease compared with 22 percent of sheep and 16 percent of beef cattle. The annual rate of clinical Johne's disease in the surveyed sheep, beef and deer farms was generally below 0.5%.

Heuer noted that except in the case of deer/sheep, co-grazing of different species appeared to increase the risk of infection. Farmers had commented that deer were more likely to be clinically infected with JD when grazing with beef cattle than with sheep. Computer modelling studies at Massey have indicated that early detection and removal of "super shedders" from a deer herd or sheep flock would be most effective method to decrease prevalence on farm. These studies have also indicated that the use of rotational grazing is preferable to set stocking to reduce the load of *MAP* bacteria on pastures. As is the case for all computer-simulated results, these findings must be confirmed in field trials.

## Deer make a good research model

**Frank Griffin**, Disease Research Laboratory (DRL), University of Otago, explained how JD in deer was highlighted in the mid 1990s when a Southland deer farmer was getting unusually high numbers of false positive Tb reactors – the culprit was, of course, *MAP*.

He said deer made a good model for studying JD because they get it young and there is such wide variation in susceptibility and resistance to the disease. The Paralisa® test developed at DRL used two antigens and has been used to test more than 200,000 animals.

Griffin said the initial aim with testing was to identify all infected animals in a herd. That policy has since been refined to concentrate only on "infectious, affected or diseased" animals. "We're not concerned about animals that have a low burden of infection. Once you get rid of the super shedders and the disease in a herd, you break the cycle of infection."

Test outcomes could be manipulated to suit the herd owner's policy, Griffin said. "A stud owner might want to remove every infected animal while a commercial herd owner might just remove the super shedders."

DRL had also developed a quantitative PCR (qPCR) test for *MAP* that provides an accurate measure of level of infection in individual animals. This would allow the removal of animals affected by JD to be done with greater precision.

Griffin told his audience that DRL was also making good progress defining the genetic signatures in deer for extreme resistance or susceptibility to JD. This work had been made possible through his collaboration with Peel Forest Estate, where there were genetically pure bloodlines and both highly susceptible and resistant animals facing a strong JD challenge. (See separate article on page 30.)

## Genetic variation and heritability needed

**John Rendel**, AgResearch, said that for a breeding programme to be successful, the trait needs to be measurable (e.g., weight), there needs to be genetic and phenotypic variation and the trait needs to be heritable. In the case of JD in deer, testing indicated there was some variation and there was heritability – 0.19 in red deer and 0.07 in wapiti. (That is, in red deer, 19 percent of the variability in JD resistance/susceptibility was determined by genetics.)

He said that in the case of a successful JD control programmes, where studs have decreased the incidence of positive testing animals to low frequencies, there would be little range in the breeding values, hence they would be of little value.

The second major initiative was a promotional offer of subsidised testing to farmers wanting a preliminary indication of the JD status of their herd. Thirty-three farmers made use of this and 23 of them agreed to



Solis Norton speaking at a recent farmer meeting.

implement a JD plan appropriate for the level of disease in their herd.

The Johne's Consultant Network of veterinarians has played a key part in implementing these new JD RMPs. In November the network received a substantial boost with the fourth JD workshop run in Hanmer Springs. Twenty-two new members attended this event and will be added to the existing membership of 38. It was especially encouraging to see members of the dairy industry and a representative for alpaca farmers among the registrations.

As the 2012 data has become available from the processing plants there are the first tantalising signs of a possible decrease in the rates of JD-suspect lesions. The chronic nature and changeable effects of this disease mean the permanence of this decrease is not yet assured, but it is very encouraging to see. The latest updates will be presented at deer farming events in 2013.

On this positive note, JML would like to wish all farmers a very merry Christmas, a happy New Year and a productive and prosperous 2013. 🍀

## Conventional wisdom challenged

**Peter Wilson**, Massey University, challenged a number of commonly-held perceptions about JD and its management. He warned that JD is not a single entity, but three: clinical disease, subclinical disease and infection without disease. The likely ratio of these three disease states was 1: 2: 80–100 respectively.

Looking at prevalence, Wilson said about 60 percent of New Zealand deer herds had evidence of infection and, among these, the clinical disease rate was 0.32 percent (0.2 percent across all deer). Anecdotally, the big catastrophic clinical JD outbreaks seen 10 years ago were now less common, he said, although this observation wasn't based on robust data.

More robust is the data on subclinical disease collected through Johnes' Management Ltd (JML), and this showed a subclinical infection rate (abnormal lymph nodes seen) of 0.7 percent nationally. This, however, was less than 50 percent predictive of actual disease on farm, he noted. "It's a high-prevalence infection/low-prevalence disease by any measure."

Wilson said it was worth questioning from time to time how much should be invested in managing the risk of a disease, in relation to other industry priorities. He said that while the percentage chance of disease transmission in utero was high, not so much was known about progression of the disease in the animal infected this way. He also challenged the recommendation to "keep wildlife numbers (possums and rabbits) down" as a means of controlling JD (as noted on the Johnes' Disease Research Consortium website) as it could be potentially very expensive, Wilson said. "Could this be economically justified?"

Looking at subclinical effects, Wilson noted that JML showed carcass weights in young animals with abnormal lymph nodes were 4–5 percent below average, with the weights down 17 percent for adults. He questioned whether this was necessarily a direct causal relationship, however.



Peter Wilson suggested the association between Johnes' disease and lower carcass weights may be more complex than first thought.

"There could be other confounding factors at work. There could be dual causation here." Lower reproductive performance and weaning weights had also been associated with JD, but Wilson also questioned the strength and nature of these links. "It's probable that the same factors that contribute to a lower reproductive performance also contribute to expression of disease."

Turning to testing and culling programmes, Wilson said he would like to see a more objective assessment of how cost

effective these were. For example, should a programme be targeted or applied across the whole herd?

Disease modelling and observational studies had confirmed that maintaining good nutrition and herd health was associated with fewer clinical cases of JD in infected herds, as was co-grazing with sheep.

Vaccination against JD with *Silirum*® was used by few deer farmers but those who did reported good results, Wilson said. He said the issue of cross-reactivity and Tb testing may have been over-stated.

Wilson concluded by saying much progress had been made in understanding JD in deer, but more work was needed on prevalence to support better decision making. "We need to evaluate test-and-cull against other management measures that might have a lower cost. We need to critically evaluate the JML system and it would be timely for the industry to measure the value of its investment in JD against other industry priorities."

## Tracking disease movement

Massey University PhD student, **Nelly Marquetoux**, analysed the full set of stock movements between Landcorp's 119 farms, along with patterns of *MAP* infection. The Landcorp information provided a unique resource for studying stock movement. The contact pattern observed between Landcorp farms was typical of usual livestock trading patterns, presenting a consistent example of a contact network of farms in New Zealand. She said movement volumes between the farms were high, including movements between Islands.

A few farms had particularly high contact with other farms in the network, potentially representing "hubs" or "bridges" with regard to infectious disease transmission. For the purpose of preventing an epidemic (more relevant in the case of a highly contagious, recently introduced pathogen rather than *MAP*), Marquetoux said that controlling movements to or from a few key properties would be appropriate for reducing the spread among farms. This finding highlights the value of livestock contact tracing in general for efficient, risk-based control strategies.

Nelly Marquetoux found linkages between contact patterns among Landcorp properties and *MAP* strains.



When looking specifically at the transmission of *MAP* and Johnes' disease, there was a link between patterns of contact between farms and patterns of the seven *MAP* strain types identified on the properties. This means that *MAP* is likely to be transmitted between farms via livestock movements. In the absence of knowledge

about differences in strain virulence though, it is difficult to infer control strategies aiming at reducing the clinical incidence of JD on farms.



## Barriers to vaccination

**Wayne Clough**, Senior Product Veterinarian with Pfizer Animal Health, took guests through a quick history of vaccination against JD in New Zealand. He said use of vaccination had been limited by various issues and barriers, but he was still optimistic that it may have a wider role in disease management in years to come.

Recent changes in ovine meat inspection procedures meant there was more scope for vaccination of sheep without creating quality problems. He noted that vaccination of sheep began to pay for itself when JD-related losses were more than 1 percent. In New Zealand, about 80,000 doses of the ovine vaccine *Gudair*® were sold annually, compared with 3 million in Australia. Clough said the threat of downgrading because of injection lesions in sheep, or the refusal of some processors to accept vaccinated sheep, was a barrier to wider use. (He said the negative attitude to vaccination in New Zealand was an outdated hangover from the days of the now-withdrawn *Neoparasac*® vaccine.) In Australia, where JD is a bigger problem in sheep, vaccination earns sheep producers a premium, he noted.

Cross reactivity with Tb testing would create a continuing barrier to widespread use of vaccination in deer in the short term, Clough said. The vaccine, *Silirum*, is licensed in New Zealand for cattle and deer and is a one-shot-for-life product. Trials in New Zealand showed a 61 percent efficacy and no impact on liveweights or shedding of *MAP*. The restriction in New Zealand of the vaccine in deer to animals going direct to slaughter (not replacements) meant that the market was always going to be small.

*Silirum* is not marketed for cattle in New Zealand, largely because of the problem of interference with caudal fold testing for Tb. While false Tb positives among *Silirum*-vaccinated cattle can be cleared through ELISA testing, the cost of this is prohibitive.


**Bob Jackman**, Ministry for Primary Industries, said injection site lesions were regarded as a “wholesomeness issue, not a food safety issue” in the case of JD vaccinations.

## Sheep trial

Marlborough veterinarian, **Peter Anderson**, said up to 20 percent of sheep could get clinical JD in infected flocks. He is taking part in a trial to identify the true extent and cost of JD in a sample of 20 mainly merino flocks. Stress caused by poor nutrition, pregnancy and so on was often associated with increased JD in a flock, he said.

The problem was often under diagnosed because farmer recall can be poor, reporting of cases is not mandatory and JD deaths can be blamed on other causes such as internal parasites. Conversely, others blame any type of wasting disease on JD.

Anderson noted that vaccination of sheep doesn't prevent disease, but does reduce clinical signs. Needle stick injuries with the oil adjuvant vaccine were very serious and did put some people off using it. He said vaccination is a cost-effective method of control. “Why bother breeding for resistance and possibly compromise other production traits when you can just vaccinate?”

The New Zealand-wide study is being funded by the Johnes Disease Research Consortium and Merino New Zealand. 

## Tag discount a major coup for NZDFA members

Ever wondered about benefits you get out of your NZDFA membership – or why you should join? Wonder no more. NZDFA and Leader Products have negotiated a deal exclusively for NZDFA members that will return your investment – and then some. Leader is offering NAIT-compliant tags to DFA financial members for at a **discount of 30–40 cents per tag**, depending on tag options taken. It won't take many tags for your membership to pay for itself. That's not the only reason to support your Association, but it's a tangible reward for your loyalty and a sign of good things to come from a rejuvenated NZDFA. NZDFA members can order tags in any of the following ways.

- Go to the Leader–NZDFA website <http://leaderproducts.co.nz/nzdfa.cfm> The link is active within the secure NZDFA membership section in the new DINZ website (click on NZDFA Member Benefits).
- Use this link you will see your special pricing before you place your order. Leader will supply to your farm and will invoice you, or you may pay by Visa card. Only NAIT deer and farm management tags plus accessories may be ordered on this site.
- Call Leader on its Freecall 0800 243 824 number. You will have to provide your membership number after which leader will contact the NZDFA for authorisation of membership before proceeding with your order.
- By mail or fax: use a Leader NAIT tag order form, which can be downloaded.
- Through the general Leader website: [www.leaderproducts.co.nz](http://www.leaderproducts.co.nz) At checkout you will nominate the NZDFA as your retailer in Wellington and put in your details including your membership number in the comments area before confirming your order.

Leader will contact the NZDFA for authorisation before proceeding with your order. You will only see retail pricing

at order but you will be invoiced the special NZDFA pricing. To take advantage of the offer *do not use* the Visa option.

Savings are available to current NZDFA financial members across all Leader products including readers – not just tags!



**LEADER**  
NAIT 'HDX' RFID Ear Tags

• High performance • Low Cost  
• Proven Retention under NZ conditions

Be sure to compare before you buy  
[www.leaderproducts.co.nz](http://www.leaderproducts.co.nz)  
freephone 0800 242 824 or from your usual Farm Merchandiser

# Deer Progeny Test: The proof of the pudding

■ by Claire Grant, *Deer Industry News* writer

Progeny from the deer industry's Deer Progeny Test (DPT) have now been slaughtered, providing initial information to accelerate industry linkage for the genetic evaluation of venison in New Zealand.

And for the first time, growth trait data on red deer progeny from the DPT will be included in the DEERSelect report contained in this issue of *Deer Industry News*. Breeding values of 12 month weight and replacement-early kill indexes will be available.

The kills from the progeny of both terminal and maternal sires on October 17 and 24 were an essential step in the genetic evaluation for some of the key stags in the country, a milestone that breeders, scientists, meat processors and DINZ are all equally excited to share in.

DPT Science Leader, Dr Julie Everett-Hincks, said the trial's value is the herd linkages it establishes across the industry. Being able to evaluate stags for growth and eventually meat yield and quality traits and overall performance across the industry, not just within herds, gives farmers and breeders valuable and accurate comparisons between stags in their commercial herds.

All male and female terminal progeny and maternal males from the DPT herds born in 2011 – a total of 505 deer – were slaughtered at the Alliance Makarewa plant in Southland.

This project was coordinated by AgResearch Research Associate, Jamie Ward, and carried out by teams at Alliance, AgResearch and the DPT farms at *Whiterock Station* and *Invermay*. All were impressed by how smoothly the data collection went.

Pre-slaughter weights and carcass weights were recorded, followed by a comprehensive range of tests and measures of individual meat cuts and co-products on-site to identify meat yield and quality aspects from each animal. Alliance's Viascan technology was used to measure the yield of loin, shoulder and leg cuts.

Analysis of that data will be carried out by AgResearch over the coming months.

The average pre-slaughter weight for the female progeny was 93.5kg, producing an average hot carcass weight (HCW) of 51.5kg. The males averaged 104.2kg pre-slaughter and 57.5kg HCW. This compares well with the industry average.

The ultimate goal of the DPT and DEERSelect is improved profitability for the deer industry. Danny Hailes, Alliance Group General Manager, Commercial, believes the deer industry is setting itself up well for the future.

He said the aim at slaughter was to capture as much data as possible from the animals, using the methods currently available to measure meat quality traits including tenderness, taste, pH, drip loss and colour stability.

That will give a very good picture of each sire's genetic contribution to meat quality and its breeding value.

Alliance has led genetic evaluation in the New Zealand sheep industry, starting the Sheep Central Progeny Test in 2002. Hailes has seen industry-wide benefits from the focus

on genetic improvement and is excited to be at the forefront of similar initiatives for the deer industry.

"For the first time we will have a scientific and objective basis for stag selection on meat qualities. The accurate breeding values and indexes will help farmers to raise the right animals for the right circumstances, and will help to produce heavier animals with the conformation we require, and earlier, as identified in the deer Productivity Improvement Programme."


He said good genetics coupled with a good feed regime and animal health plan will make a difference.

"The average deer slaughter weight in New Zealand is currently 54–55kg; with genetic improvements on-farm it's feasible to lift that to 65kg. If farmers can grow their progeny out earlier, they will meet the chilled trade market, meaning better returns and cashflow for all," he said.

Not only that, but the energy efficiency gains from those improvements reduces the environmental footprint.

## A team effort

Intense and lengthy planning involving every Alliance department, from the booking administrators to the marketing team and transporters, was required to bring about such a smooth slaughter run. Accurately attributing data to the right animal was crucial, using systems to double-check each part of the process from the EID tags right down to the processors on the floor altering their rotation system especially for the day. Alliance also developed a boning protocol for the slaughter after consulting with the other main New Zealand processors, so the process will remain consistent across time and processing plants.

The DPT trial is about to go into its third breeding season, which has expanded to include more stags after a successful call to industry for breeder involvement. A total of 800 hinds are now involved in the trial, being run this year at AgResearch *Invermay* near Dunedin and *Haldon Station* in Canterbury. 



Cutting samples into taste sample cubes.



Taking 24 hour post slaughter pH measurements from a loin.



Carcasses from first DPT slaughter (in kill sequence, in the chiller, tagged for further measurements).

## About the Deer Progeny Test

Progeny testing is a way of determining the true value of a stag's genetic potential, by comparing progeny performance. The DPT is set up to improve linkages across breeders' herds, so stags can be genetically evaluated for growth, venison and meat yield traits by comparing traits expressed in their progeny. Stags are nominated by their breeders, selected on specific criteria, and used in an AI programme. Progeny, which are run in separate herds over research and commercial deer properties in the programme, are subsequently evaluated for growth, meat and maternal traits. Data produced from the DPT and evaluated and published through DEERSelect then help commercial farmers to make better informed decisions, by comparing industry stags for specific performance and production qualities, thereby improving herd profitability.

## DEERSelect changes


DEERSelect has had a lot going on in the past 12 months, not the least Sharon McIntyre's appointment (see *Deer Industry News* October 2012, page 39). We have removed the Replacement hind late kill index, because feedback was that this just caused confusion. The reports are now ranked by the Replacement hind early kill index, which was created for breeder/finishers. There is also the terminal index for finishers. New herds have been added, and very importantly data from the red progeny from the Deer Progeny Test (DPT) have been added (see separate article opposite).

This is the second official red deer across-herd sire summary that has been produced including data from DPT. This is a very important step for the DPT, because the number one aim was to improve linkage within DEERSelect. This has happened – growth trait linkage has tightened up and the meat trait linkage has improved markedly.

If you are a stag buyer, talk to your breeders about the herd linkage, because the better the linkage the more reliable their indexes and breeding values are. When looking at linkage graphs, anything less than 0.25 is considered good.

The genetic trends for indexes and growth, meat and conception date breeding values are all moving well. Again we recommend that purchasers ask their breeders to show them their genetic trends graphs, as it is your breeder's trend that you will follow. There is a whole lot more on this and all things DEERSelect on the updated DINZ website at

<http://tinyurl.com/a7kkplm>

As time moves on, so does DEERSelect, so ensure you are always comparing apples with apples when it comes to DEERSelect indexes and breeding values. Always look at DEERSelect data from the latest official runs, for any animals you wish to compare, which includes stags you may have purchased in previous years. Your breeders should be able to help you out with this. 



Analysis date: 28 November 2012

**DEERSelect**

■ by Jamie Ward, AgResearch

These sire summaries list sire estimated breeding values calculated from a single analysis of information from herds located around New Zealand. This analysis enables the genetic performance of the sires used in these herds to be compared on the same basis, after differences in environment have been removed.

To appear on the list a stag must have a minimum of five progeny recorded, have a minimum accuracy for 12 month weight estimated breeding value of 75% and have progeny born in the past two years.

Table 1 contains stags nominated by their owners as being English. The top 10 stags ranked by Replacement – Early Kill index are listed here. Table 2 (European and composite) lists stags not specifically nominated by their owners as being English. However the estimated breeding values are directly comparable with those of stags on the English list (providing both lists have the same analysis date recorded).


Because of space limitations we have listed only the top 10 English sires and the top 30 European and composites. There are 25 animals on the complete English list and 372 on the English/composite list. To see these sortable lists in full, visit <http://tinyurl.com/d3ekbs4>.

The information presented is for growth, meat yield and reproduction, with the traits being weight at 12 months (W12), carcass weight at 12 months (CW), mature weight of hinds (MWT) and conception date (CD). Both the estimated breeding values (eBV) and the accuracy of each estimated breeding value (acc%) are reported. Number of progeny is reported as “number recorded in the past two years/total number recorded” where the two numbers differ. The list ranked by Replacement – Early Kill index.

Conception date is estimated from ultra-sound scanning of hinds between days 30 and 70 of pregnancy to determine

fetal age. Note that a negative conception date eBV means that on average the daughters from that stag would conceive earlier than those from a stag with a positive conception date eBV. In this instance a negative eBV would generally be considered to be favourable. The units for conception date eBVs are days. As recording for this trait is not yet widespread, only animals with accuracies of greater than 40% have conception date eBVs reported.

Two economic indices are presented which provide information on the economic balance between traits for different situations a stag might be used in. First there is a stag used to breed replacement hinds in a herd with a relatively early kill profile targeting the spring schedule premiums. In this situation (Replacement – Early Kill) there is a relatively high value placed on additional growth potential and earlier calving to meet spring premiums with a greater number of animals. The second index (Terminal) is for a stag used as a terminal sire, with no daughters kept as replacements. In this situation the sole emphasis is on growth traits, with no emphasis on mature weight or conception date of daughters. Further information on the construction of these indices is contained in a report on <http://tinyurl.com/cb5kvlp>

**DISCLAIMER:** While every endeavour has been made to ensure the accuracy of the information in this report SIL and AgResearch expressly disclaims any and all liabilities that may arise from the use of the information. 

**Table 1: English top 10 stags ranked by Replacement – Early Kill.**

Rank (R-early kill)	Birth Herd	Birth Tag	Current Tag	No Progeny	W12eBV	W12Acc	CWeBV	CWAcc	MWTeBV	MWTAcc	CDeBV	CDAcc	R-EarlyKill	Terminal	Current Flock Prefix
1	Stanfield English	95068/95	68/95	28/61	7.3	0.92	4.7	0.85	4	0.79			8.47	15.24	Pelorus Deer
2	Pelorus Deer	9829/98	TOBY	24/363	9.4	0.98	5	0.91	5.5	0.89			8.15	15.45	Peel Forest Estate
3	Stanfield English	98004/98	CRAIGIE	32/132	1	0.95	1.7	0.87	-6.4	0.83			6.93	5.93	Deer Improvement
4	Canterbury Imp Red Deer	96053/96	96053	2/221	4.5	0.96	2.6	0.88	3.7	0.89	-3.3	0.78	5.81	9.36	Canterbury Imp Red Deer
5	Stanfield English	011440/01	ARAGORN	45/354	5.2	0.98	3.3	0.91	4.8	0.89			5.71	11.93	Stanfield English
6	Stanfield English	03254/03	DARTAGNION	61/182	6.1	0.97	2.7	0.9	4.5	0.83			4.34	8.79	Stanfield English
7	Warnham Park	92450/92	CHARLES RUPERT	2/256	0.7	0.98	1.1	0.89	-0.5	0.92	-1.7	0.48	3.69	4.35	Stanfield English
8	Stanfield English	97038/97	HOTSPUR	9/214	1.2	0.97	1.6	0.89	0.9	0.9			3.37	6.1	Pelorus Deer
9	Woburn Abbey	001406/00	HERBRAND	28/160	-2.8	0.96	-0.7	0.88	-7.1	0.88			1.36	-2.78	Woburn Abbey
10	Peel Forest Estate	02518/02	MATHIAS	28/168	0	0.97	0.4	0.89	0.2	0.8			0.63	1.28	Peel Forest Estate

Table 2: European and composite top 30 stags ranked by R – Early Kill.

Rank (R-Early Kill)	Birth Herd	Birth Tag	Current Tag	No Progeny	WT2eBV	WT2Acc	CWeBV	CWAcc	MWT2eBV	MWT2Acc	CDeBV	CDAcc	R-EarlyKill	Terminal	Current Flock Prefix
1	Deer Improvement	09175/09	SICILY	14	23.7	0.86	12.5	0.79	16.2	0.68	-4	0.5	<b>22.04</b>	42.2	Deer Improvement
2	Deer Improvement	MFCF-08-122/08	GAGARIN	47	25.1	0.91	12.7	0.85	17.9	0.74	-3.3	0.56	<b>21.11</b>	42.38	Deer Improvement
3	Deer Improvement	MFCF-08-117/08	SIBERIA	132	23.3	0.96	12.6	0.89	16.8	0.78	0	0.53	<b>20.85</b>	43.36	Deer Improvement
4t	Deer Improvement	09127/09	GALILEO	134	23.8	0.96	12.5	0.88	17.3	0.76	-2.6	0.55	<b>20.7</b>	41.68	Deer Improvement
5	Deer Improvement	07149/07	TUSCANY	39/91	23.3	0.95	12.3	0.88	15.5	0.8	-4.7	0.74	<b>20.67</b>	39.06	Deer Improvement
6	Deer Improvement	MFCF-08-130/08	DRESDEN	20	22.3	0.84	12	0.78	14.7	0.69	-4.3	0.5	<b>20.38</b>	38.49	Deer Improvement
7	Deer Improvement	MFCF-08-110/08	SEAMEN	40	20.9	0.91	11.8	0.84	15.3	0.76	-2.2	0.56	<b>20.08</b>	39.87	Deer Improvement
8	Remarkables Park Deer Farm	62/05	LUCIANO	110/264	19.5	0.98	10.7	0.93	13.5	0.91	-7.7	0.86	<b>19.77</b>	34.65	Deer Improvement
9	Deer Improvement	06259/06	BREMEN	362/667	19.9	0.99	10.8	0.94	11.2	0.9	-5.9	0.81	<b>19.48</b>	33.84	Deer Improvement
10	Black Forest Park	06168/06	BENDIGO	3/28	24.4	0.89	12.5	0.81	19.8	0.78	-4.6	0.62	<b>19.28</b>	40.09	Black Forest Park
11	Deer Improvement	09125/09	CORTES	10	21.5	0.84	11.4	0.77	13.8	0.67	-3.7	0.51	<b>19.17</b>	36.31	Deer Improvement
12	Deer Improvement	06268/06	ARDLUSSA	44/95	17.5	0.95	10.1	0.89	12.1	0.84	-4.5	0.68	<b>19.09</b>	34.69	Deer Improvement
13	Deer Improvement	09160/09	CONSORT	11	23.2	0.84	12.2	0.77	18.2	0.68	-2.1	0.55	<b>18.82</b>	39.68	Deer Improvement
14	Deer Improvement	09135/09	NAPLES	17	21.6	0.87	11.5	0.8	14.7	0.69	-2.5	0.53	<b>18.79</b>	37.03	Deer Improvement
15	Black Forest Park	02P162/02	KURGAN	119/243	23.3	0.98	12.5	0.91	20.2	0.88	-1.3	0.66	<b>18.77</b>	41.48	Black Forest Park
16	Peel Forest Estate	06068/06	06068	1/4	19.1	0.79	10.7	0.73	15.2	0.65			<b>18.4</b>	36.56	Peel Forest Estate
17	Deer Improvement	09116/09	DAVINCI2	122	20.6	0.95	11.2	0.87	15.6	0.76	-3	0.5	<b>18.2</b>	36.59	Deer Improvement
18	Deer Improvement	06318/06	CESSNA	76	19.7	0.94	10.8	0.86	15.4	0.76	-4.2	0.42	<b>18.08</b>	35.88	The Steyning
19	Deer Improvement	09168/09	BERLESONI	28	19.4	0.88	10.5	0.81	13.9	0.7	-3.5	0.5	<b>18.03</b>	34.84	Deer Improvement
20	Doncaster Deer Partnership	06583/06	CORONA	21/103	18.6	0.96	10.1	0.88	11.4	0.86	-4.9	0.69	<b>17.93</b>	32.25	Deer Improvement
21	Deer Improvement	MFCF-08-149/08	MOSCOW	82	23.9	0.94	12.3	0.87	19.3	0.77	1.3	0.59	<b>17.8</b>	40.9	Deer Improvement
22	Deer Improvement	09195/09	PUCCINI	23	21.5	0.88	11.2	0.81	16.2	0.71	-2.2	0.54	<b>17.71</b>	36.57	Deer Improvement
23	Doncaster Deer Partnership	09549/09	09549	7	20.6	0.82	10.9	0.76	14.7	0.69	-4.3	0.51	<b>17.54</b>	34.36	Doncaster Deer Partnership
24	Deer Improvement	07142/07	UMBRIA	12/109	18	0.95	10.1	0.88	13.7	0.79	-3.8	0.72	<b>17.54</b>	33.8	Deer Improvement
25	Deer Improvement	MFCF-08-138/08	BERLIN	159	18.5	0.97	10	0.9	11.7	0.79	-3.6	0.53	<b>17.47</b>	32.37	Deer Improvement
26	Deer Improvement	MFCF-08-140/08	MUNICH	108	19	0.94	10.1	0.87	12.1	0.77	-3.6	0.53	<b>17.43</b>	32.66	Deer Improvement
27	Deer Improvement	09180/09	COSMO	17	21.3	0.86	11.1	0.79	15.1	0.68	-3.4	0.49	<b>17.34</b>	34.53	Deer Improvement
28	Deer Improvement	09150/09	COGNAC	16	19.6	0.86	10.7	0.79	14.8	0.69	-1.9	0.54	<b>17.23</b>	35.2	Deer Improvement
29	Deer Improvement	09171/09	INVINCIBLE	17	20.4	0.86	10.7	0.79	14.2	0.68	-2.5	0.53	<b>17.15</b>	34.16	Deer Improvement
30	Fairlight	08012/08	HEINEKEN	22	18.1	0.82	9.6	0.76	10.4	0.66	-3.9	0.41	<b>17.06</b>	30.8	Deer Improvement