



Welfare Pulse

Animal welfare in New Zealand and around the world

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Nathan Guy editorial

One of the most important issues I look after in my role as Primary Industries Minister is animal welfare, especially on farms.

New Zealanders care deeply about how animals are treated. Sixty-eight percent of households have at least one pet, and we earn around \$23 billion a year by exporting animal products such as meat, milk and wool.

In November 2014, the global charity World Animal Protection ranked New Zealand first equal out of 50 countries for our animal welfare regulatory system.

Of course this doesn’t mean we can rest on our laurels and we have been constantly looking to make improvements.

How we treat animals matters not just to animals, but to ourselves and overseas markets. Increasingly consumers are demanding higher standards on things like our environmental footprint and animal welfare.

In last year’s Budget, we increased funding for animal welfare by \$10 million to improve compliance and enforcement.

We also passed the Animal Welfare Amendment Act and as a result are bringing in new enforceable regulations that set mandatory animal welfare standards. Public consultation on a range of new regulatory proposals to enhance the enforceability, clarity and transparency of the Animal Welfare Act concluded on 19 May this year.

The regulations around young calves are now in place and include:

- requiring that young calves must be at least four days of age and physically fit before they are transported for sale or slaughter;
- setting a maximum duration of 12 hours journey time for young calves being transported for sale or slaughter;

continued...



Nathan Guy



- prohibiting the transport of young calves by sea across the Cook Strait;
- prohibiting blunt force to the head for killing any calf, except in emergency situations.

Three further regulations will be introduced under a delayed start to ensure enough time to make the business changes necessary. These regulations include:

- requiring that young calves must be slaughtered as soon as possible after arrival at the slaughter premises, and within 24 hours of the last feed on farm (1 February 2017);
- requiring that suitable shelter be provided for young calves before and during transportation, and at points of sale or slaughter (August 2017);
- requiring that loading and unloading facilities be provided and used when young calves are transported for sale and slaughter (August 2017).

The new regulations are part of a range of wider initiatives being undertaken by government and all of the industries involved with bobby calves to ensure best practice. It's pleasing to see industry taking a strong line and showing leadership after the disturbing footage that was publicly released last year.

Most good farmers and animal owners will notice very little difference from these rules. But for those who are not meeting current minimum standards in codes of welfare, there will be clearer rules and these will be easier to enforce.

In the last few years we've also made a range of other changes to welfare rules. We've banned the use of animal testing for cosmetics, banned live shark-finning, banned the use of sow stalls for pigs and by 2022 we will have phased out the use of battery cages for hens.

Thanks for your interest and feedback in what is a major priority for myself and MPI.

Dry Times – “Making the best of a bad situation”

In North Canterbury, 2015 was a year to remember for the extreme climatic conditions that prevailed for that entire year and have continued well into 2016. A drought like this had not been experienced by anyone - and many had been farming here for a long time. Dry episodes in the early seventies and late nineties are remembered with apprehension but they didn't persist for as long as the *big dry* of 2015/2016.

Most of our farmers saw the beginning of things to come as far back as January 2015, and many started feeding supplements at this time. The hope was that the situation would improve and that crops and pastures would get a boost before winter.

This did not happen and the drought continued through winter, spring and into summer in association with a strong and persistent El Nino weather pattern. In January, the official drought declaration was extended until June 2016. This has now been re-extended until the end of 2016. This drought is now the longest official drought declaration in New Zealand's history.

Rainfall recordings quantify the dismal story (*about 1/3rd of normal annual rainfall was recorded last year*). Adverse conditions were further exacerbated by persistent hot, dry nor'westers in the spring.

Stock numbers carried through on dryland properties were frequently down by over 50% (*over 100,000 pregnant ewes left the area well before lambing*), pastures were decimated, green feed crop yields were well down and a reduction of around 20% in ewe scanning was usual.

These conditions necessitated dramatic responses and some options not previously experienced were explored:

- A large number of stock were sold prematurely, including ewe hogget replacements and breeding ewes and cows.
- Finishing stock were sold early as stores.
- Normal trading and grazing opportunities were forfeited.
- Off-farm grazing in other areas (usually further south) was well utilised, for many, for the first time ever.

Supplementary feeding was vital. While barley and baleage were the mainstays, palm kernel expeller and fodder beet were tried successfully to get through winter. Late sown cereal green feeds (as oats) provided some respite.

Pastures were destocked for long periods to allow for a build-up of lambing pasture covers, which often did not come to much.

A lot has been learned by all who have managed to get through to now, with maintenance of animal health and animal welfare being paramount to achieving best animal performance.

The cycle continues with the 2016 lambing season just underway. Ewe scanning results are up on 2015, but stock numbers are reduced. Green feed crop yields are down and pasture covers are low and remain damaged, while feeding and grazing costs mount and some animals will not be returning home.

The whole community has responded positively in many ways, with a cooperative approach from all for the common good. Reducing feelings of isolation and empowering more confident decision-making are crucial to supporting best farm management planning and maintaining a positive and healthy outlook. The North Canterbury Drought Response Committee (NCDRC), chaired by Hurunui District Council mayor Winton Dalley, coordinated input locally from MPI, Rural Support Trust (RST), Federated Farmers, Beef and Lamb NZ, Farmer representatives, stock firms and North Canterbury Vet Clinics Ltd (NCVC).

A programme of farm visits, farmer seminars, pub chats, social events and donated feed distribution was organised as a combined effort from everyone. Schools, churches, banks, out-

of-towners and other farmers all helped out. That there were no animal welfare “blowouts” is a tribute to farmers struggling under difficult circumstances, and a debt of gratitude is owed to those who hosted field days on their properties in these trying times.

A variety of sponsored social events have helped raise morale. A highlight this year was the event organised by local farmers Nick Hamilton and Dan Hodgen in getting 100 farmers on a two-day trip to the Mystery Creek Fielddays in June.

NCVC became involved early on and responded by:

- developing a drought “tool kit” that included:
 - feed budgeting to determine the amount of feed required to meet animal demands and stock numbers able to be carried;
 - livestock body condition management and scoring;
 - management option calculators to assist with decisions to sell stock, graze off farm and/or feed on farm;
 - strategic guidelines for livestock transport, metabolic disorders, body condition monitoring and animal welfare;
 - animal health planning;
 - animal welfare guidelines;
- setting up a programme of individual complimentary farm visits to discuss drought-related issues and animal welfare matters and to explore the opportunities for achieving best outcomes;
- providing extension services via participation on the NCDRC, speaking and demonstrating at farmer meetings and women’s days, communications in newsletters and electronic mailings, and follow-up of referrals from RST.

Those who have fared the best generally are those who looked ahead and made their tough decisions early.



Photo: Beef + Lamb

The effects of the drought are not over. Some very welcome rain in January this year certainly helped boost some pastures and crops and helped get some lambs to higher weights. But the effects of pasture decimation, reduced capital stock numbers, reduced income and greater debt remain.

A lot has been learned on how to farm through such an adverse event. Farm resilience has been enhanced with improved feed planning and improved livestock performance management in

evidence. Miracles may happen now and then, but planning ahead, although not always easy to accept, is more farsighted than waiting and wishing for things to improve.

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A farmer's perspective on the drought

Tim and Sue Anderson farm in partnership with their son, Woody, at Hundalee in North Canterbury. The home farm, which has been in the family for generations, skirts the Conway River and the east side of State Highway 1 up into the hills towards Kaikoura. It's tough country, much of it steep and bush-covered, and when the Andersons lost access to part of a nearby farm where much of their stud Perendale flock was run, they took on the lease of a farm just outside Cheviot. With Woody resident at the Cheviot farm, the problems involved in running a single operation on two farms half-an-hour's drive apart was enough of a challenge. But then came the drought...

"This is the longest drought ever on record here," says Tim. "The 88-89 one was severe but quick – this one has lingered..." He cites the sheer logistics and cost of having to graze at least a third of the flock off the farms, and to providing additional nutrition to the rest with supplements such as nuts and baleage. "At least we reduced stock numbers after last year," he says, but points out that if things do come right, increasing the stock numbers again will be expensive at a time when earning power is down. He also points out that the downturn in the dairy industry means that cows are not being sent out to sheep farmers for grazing.

"Another problem has been the high nitrate levels in crops," says Tim. "We learnt after last year to get crops in early, but the dry conditions have caused high levels of nitrate in growing plants, which can cause abortions and toxicity."

"Farm maintenance and development has fallen behind as well," he says. "Apart from January and February, we've been feeding out and shifting breaks every day for months. It consumes so much time and other work suffers..."

But there have been positives. Tim cites the work done by the Rural Support Trust and Beef & Lamb NZ, plus support from local services such as the transport and stock firms. "The vets offered free consultations on coping with the conditions. The community support has been outstanding," he says. And it's not just local. "Goodwill and generosity in providing grazing and feed from friends and colleagues from outside the drought area has been truly humbling."



Photo: Patrick Smith

Working together to promote the benefits of shelter

As an initiative under the Safeguarding our Animals, Safeguarding our Reputation programme, Beef + Lamb NZ, with input from MPI, the NZ Farm Forestry Association and the NZ Veterinary Association recently published *Shelter: maintaining the welfare and productivity of sheep and cattle on drystock farms*. While there is already a lot of material about shelter and animal welfare spread throughout the involved parties' websites, pulling it into a single document makes it easily accessible for farmers. The brochure provides basic information about the benefits of shelter, with links to further resources for those farmers considering planting trees.

New Zealand's temperate climate means farmers produce world class livestock from grass-based outdoor systems. High standards of animal welfare are a key part of any successful, sustainable livestock enterprise, and farmers need to take great pride in managing their stock in the best possible way, to produce high quality products.

Keeping grazing livestock at a comfortable temperature makes good sense for both animal welfare and productivity reasons. This is particularly so at times of the year when livestock are vulnerable to either very hot weather or cold, wet, windy conditions or when animals are heavily pregnant, around lambing and calving, and immediately post-shearing.

The benefits of shelter and shade

Sheltering against cold, wet and windy weather can benefit livestock productivity and welfare in a number of ways:

- **Better food conversion efficiency and increased growth rates** – more shelter means less energy spent keeping cool or warm.
- Better survival chances for young lambs and calves.
- Reduced stress on vulnerable animals, such as heavily pregnant ewes and cows, or any sheep post-shearing.
- **Better pasture growth and utilisation** – warmer temperatures encourage growth; animals will graze more evenly over widely sheltered areas.
- Reduced drying of pastures reduces moisture loss.
- **Better reproductive performance** – rams and bulls, especially lowland breeds, will perform better in more sheltered environments.

- Shade too contributes to animal welfare and productivity, reducing the risk of heat exhaustion and sunburn.

Trees for shelter and shade

Planting trees is an option available to farmers who want to mitigate the effects of heat, or of cold, wet and windy weather. Shelterbelts, woodlots, widely spaced trees and even individual trees all have potential to protect animals from cold or heat.

Well-planned plantings with shelter and/or shade objectives have the potential to bring other benefits to the farm such as timber or firewood production, reduced soil erosion, habitat for wildlife, nectar for bees and fodder during droughts. Conversely, badly designed plantings can cause long-term problems including increased incidence of disease, reduced pasture growth, and drainage and shade problems.

Shelter: maintaining the welfare and productivity of sheep and cattle on drystock farms can be downloaded from

Beef + Lamb NZ's website.

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The Ministry for Primary Industries *Safeguarding our Animals, Safeguarding our Reputation* programme is about improving voluntary compliance of animal welfare laws. Working collaboratively with industry groups, activities include: developing resources to support farmers and veterinarians, educating people who work with production animals through workshops and conferences, and improving awareness and use of the codes of welfare. For more information about the Safeguarding programme visit the [MPI website](#).



Photo: Beef + Lamb

Exploring the place of animal ethics in New Zealand schools

New Zealand teaching and learning has shifted over the past 15 years in response to the challenges laid down by the New Zealand Curriculum's (NZC's) vision statements and aspirations. The key competencies identified by the NZC are:

- thinking;
- using language, symbols and text;
- managing self;
- relating to others;
- participating and contributing.

These signal the shift away from the traditional content-focused education many of us would recognise, toward a far more student-centred, holistic style in which knowledge is built within authentic contexts and competencies developed across curricular areas (subjects).

Letting go of teaching our precious subject content and of the “student as an empty vessel to be filled with stuff we call knowledge” model has been a long slow process but there is now firm recognition in New Zealand of the importance of engaging in learning within real life contexts that require critical thinking, ethical decision-making and knowledge building.

How does animal ethics feature in NZ schools?

It would be fair to say there has been a significant decline in animals being kept in classrooms and school laboratories due to greater awareness of human health and safety as well as animal welfare issues.

New Zealand schools have their own animal ethics committee (AEC) managed via the New Zealand Association of Science Educators (NZASE)¹. This AEC typically deals with inquiries and applications related to Science Fair projects (e.g. what food does my cat prefer?), investigations for the Royal Society

of New Zealand's international awards scheme Creativity in Science and Technology (CREST) and senior biology investigations (e.g. responses of mud crabs to changes in salinity). A modified application form is used by schools. Some ongoing issues for the Schools' AEC include students retrospectively seeking approval after being challenged by a Science Fair judge, some lack of clarity about what constitutes a manipulation, and which categories of organisms actually require ethics approval. Hence NZASE plays a strong educational role in addition to its consideration of actual applications.

A student might encounter animal welfare and ethical issues in several curriculum areas in such contexts as ethical decision-making in social sciences, evaluating contemporary biological issues in biology, exploring the nature of scientific research in general sciences, developing an animal-related product or process in technology or developing a piece of persuasive writing in an English course.

So how do you teach ethical thinking?

Teachers inevitably bring bias (conscious or unconscious) to any issue. How to develop students' critical thinking skills without influencing them? New Zealand science educators have access to a range of resources:

The Science Learning Hub² features a set of ethical thinking tools suited to senior students.

Otago University delivers the Bioethics Roadshow³, offering robust workshops to challenge students' thinking about issues such as sports, medicine and gender identity as well as animal ethics.

ANZCCART initiatives⁴ – Animal ethics as a context both for the teaching and learning of ethical thinking (DVD with

New Zealand case studies) and also for the assessment of that learning against National Certificate of Educational Achievement (NCEA) Achievement Standards at each of the three levels. This collaboration between ANZCCART and teachers created a product enthusiastically received by teachers. Promoted via Biology Teachers' Facebook page and Biology Educators' Association of New Zealand (BEANZ) newsletters, these resources were workshopped at BioLiveChemEd2015 and provide a valuable counterpoint to another set of resources sent to schools by Save Animals From Exploitation's (SAFE's) Animals in Science.

Annual subject association conferences regularly feature presentations and workshops related to animal welfare and ethics, including:

- Siouxsie Wiles – *Glow-genes in rats effectively reduce the grade and numbers required for animal research projects AND improve the quality of research findings/data* (BioLiveChemEd2015 in Wellington).
- Mark Fisher – *Are all animals equal? Exploring sentience in animals* (BioLive2013 in Christchurch).
- Peter Larsen (National Animal Ethics Advisory Committee [NAEAC]) – *Getting the most out of a Heart Dissection* (BioLiveChemEd 2015).
- Tamara Diesch (Ministry for Primary Industries) – case studies showcasing Three Rs (replacement, reduction and refinement) initiatives (in development).

These initiatives certainly reflect the principles of the New Zealand Curriculum in that they provide the opportunity for much more openness about how and why animals are used in research, testing and teaching and offer new opportunities for genuine dialogue between researchers, teachers and students.

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¹ <http://nzase.org.nz/about/animal-ethics/> and <http://www.nzscienceteacher.co.nz/safety/safety-ethics-and-science-fairs/#.VrmeG-f197rd>

² <http://sciencelearn.org.nz>

³ <http://www.bioethicseducation.com/>

⁴ <http://anzccart.org.nz/schools/>

Appointments to NAEAC

The Minister for Primary Industries has appointed Mr Grant Shackell as Chairperson of the National Animal Ethics Advisory Committee and appointed Ms Leasa Carlyon JP, Dr Bronwen Connor and Dr Craig Gillies as members of the committee. He has also reappointed Ms Terry Burrell for a second term.



Grant Shackell replaces Dr Virginia Williams who had served two terms. As Chairperson of NAEAC he is an ex officio member of the National Animal Welfare Advisory Committee. Grant has had a long career in agricultural research, particularly in the field of reproductive physiology.

His expertise encompasses both production animals and invertebrate pest species. He was also involved in establishing DNA-based methodologies for traceability of meat products and, more recently, in developing genomic selection tools for enhancing productivity, animal health and welfare traits in sheep.

Grant also has extensive experience both chairing and advising animal ethics committees that serve a number of organisations using animals for the purposes of research, testing and teaching.



Leasa Carlyon provides a lay perspective for the committee and replaces Mr Stephen Cairns. She is a Restorative Justice Facilitator at Community Law Wellington and Hutt Valley and is also a Judicial Justice of the Peace presiding in the Wellington and Porirua District Courts

for minor offences and arrest courts. Leasa is also a member of the Health Practitioners Disciplinary Tribunal.

Bronwen Connor provides the committee with knowledge and experience of medical and biological science. She replaces Dr Peter



Larsen who had served two terms on the committee. Bronwen is an Associate Professor in Pharmacology and head of the Neural Reprogramming and Repair Lab at the University of Auckland. Her research programme is based on the identification and development of novel protective or regenerative strategies to treat brain injury and disease, with particular focus on the potential use of stem cell therapy and gene transfer techniques.

Bronwen is a graduate of the University of Auckland, graduating with a BSc in Pharmacology and Physiology in 1994 and a PhD in Neuropharmacology in 1997. She then spent three years as a Postdoctoral Fellow at Northwestern University in Chicago, USA studying the potential use of gene therapy for the treatment of Parkinson's disease.

Bronwen has extensive expertise in the use of rodents to model brain injury and disease, including stereotaxic surgery and assessment of motor and cognitive function. Bronwen has worked on a number of pre-clinical strategies for the treatment of brain disease and injury including gene therapy for Parkinson's disease and Huntington's disease, the development of stem cell replacement therapy for Parkinson's disease, Huntington's disease and stroke, and the identification of novel agents for the treatment of depression. She also has an interest in the use of current pharmacological agents, such as anti-depressant or anti-psychotic agents for the potential treatment of other brain injuries or diseases, and is currently involved in a clinical trial for the use of the anti-psychotic clozapine for the treatment of multiple sclerosis.



Craig Gillies provides the committee with knowledge and experience of environmental and conservation management. He replaces Mr Bruce Warburton. Craig has worked as a scientist for the Department of Conservation for 18½ years; he is a member of the

Threats team in the Science & Policy Group and is currently based in Hamilton. His area of expertise is in the ecology and management of introduced mammalian predators, particularly rodents, mustelids and feral cats. Craig is currently working on two major research programmes: testing the performance and use of self-resetting traps, and developing monitoring protocols for invasive predators in wetland habitats. Craig also provides specialist advice on controlling and monitoring introduced mammalian predators to DOC staff, pest control agencies and conservation groups throughout New Zealand.

Terry Burrell was originally nominated by the Ministry of Education and appointed to provide knowledge and experience of education issues including the use of animals in schools. Terry teaches at Onslow College in Wellington and is also active in Biology Educators Association of New Zealand. In 2014 Terry was awarded the New Zealand Prime Minister's Science Teacher Prize. In her spare time she is an avid tramper and as a member of Mainland Island Restoration Operation (MIRO), she is involved with pest control around the East Harbour Mainland Island behind her cottage in the Eastbourne hills.



Development of Animal Welfare Regulations

In 2015 the Animal Welfare Act 1999 was amended with a number of key changes brought in to improve the transparency, enforceability and clarity of animal welfare standards in New Zealand.

This included a new power to create regulations relating to:

- care and conduct towards animals;
- surgical and painful procedures; and
- live animal exports.

MPI established a working group including representation from the National Animal Welfare Advisory Committee, the Veterinary Council of New Zealand and the Royal New Zealand Society for the Prevention of Cruelty to Animals. The group reviewed over 1200 minimum standards from across all existing and draft codes of welfare to identify those that were suitable for elevation into regulation.

Many of the care and conduct proposals lift existing minimum standards from codes of welfare, while others relating to surgical and painful procedures set new standards relating to the procedures that can be performed on both production and companion animals. To improve enforceability of these standards, the regulations provide new prosecutable offences and an ability for Animal Welfare Inspectors to issue infringement notices in cases of low to medium level offending.

In April 2016 MPI released the 91 regulatory proposals for public consultation. A series of public meetings were held across the country. Workshops were also held with key industry and advocacy stakeholders. In total MPI received 1500 submissions which are being analysed before the final proposals are decided.

Included in the regulatory package were seven proposals specifically relating to the management and treatment of young calves. Analysis on these is complete and the regulations are now issued (see Minister Guy's editorial in this issue).

New rules have also recently been issued for live animal exports and these come into force in August.

These enhance existing safeguards by allowing MPI to have greater visibility of the welfare of exported animals both during their journey, and for up to 30 days after their arrival in the importing country. New regulations also ensure the prohibition on exporting livestock for slaughter remains, and maintain New Zealand's reputation as a responsible exporter. These come into force in December this year.

James Kane
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Accredited reviewers for organisations with a code of ethical conduct

Any organisation or individual that wishes to undertake research, testing or teaching on animals in New Zealand must do so under a code of ethical conduct approved by the Director-General for Primary Industries. Every five years at most, compliance with the code and with Part 6 of the Animal Welfare Act 1999 (and its amendments) must be assessed by independent reviewers accredited by the Ministry for Primary Industries (MPI) for the purpose, in accordance with section 109 of the Act. Dr Virginia Williams has recently been reappointed as an accredited reviewer, having resigned for the six-year period during which she chaired the National Animal Ethics Advisory Committee.

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Dr Virginia Williams

MPI Farm Audits

Background

This article provides an update on the significant changes that have been made to the MPI On Farm Verification (OFV) farm audit programme in 2016, and in particular the increased focus on animal welfare in this programme going forward.

Fundamental change in the international food industry has become a fact of life for all who participate in it; for those whose livelihood it provides; for those who regulate its operations; and for those who benefit from it, the consumer.

New Zealand's export food industry serves a large and widening network of bilateral trading relationships. Some markets, in major developed economies, are mature, long-established and substantial. Others, primarily in the Asia-Pacific region, have come to prominence more recently. No individual market is free of some regulatory challenge for New Zealand.

New Zealand's comparative advantage in global trade of agricultural products comes from the mix of favourable growing conditions and the expertise acquired in producing relatively low cost products. It also comes from our reputation as a credible and trusted supplier and negotiated bilateral trade conditions.

The strength of New Zealand's negotiating position in this situation arises from its known adherence to international standards, the robustness of New Zealand's own standards (science and risk-based), and the integrity of our food safety (and related) programmes and their administration.

New Zealand has much at stake. Our own food safety and market access regimes must be able to withstand the most robust scrutiny from overseas auditors. Part of that regime is the on farm environment and the movement and transport of animals. The need for New Zealand to "keep its own regulatory house in order" cannot be over-emphasised. Any

offshore perception of less than total commitment to ensuring compliance with New Zealand standards will be seized upon to New Zealand's cost.

OFV 2016

The OFV has been amended to take account of these factors and to prepare New Zealand farmers for the future. The scope of the 2016 audit programme has been expanded, with a greater focus on animal welfare and a wider scope of livestock farms.

The OFV was launched in 2003 to familiarise farmers with their legal responsibilities related to the Animal Status Declaration (ASD) that is required to be completed for movements of livestock from farm to farm, or to saleyard or to slaughter. In May 2009 the Animal Products (Regulated Control Scheme-On-Farm and Stock Sale-yard Verification) Notice was published defining the legal basis for this programme.

Farms are currently selected for audit from the ASD's provided to export meat slaughter premises when animals are supplied for slaughter. Following the findings of the 2007, 2008, 2011 and 2014 European Food and Veterinary Office (FVO) audits MPI has provided a commitment to the European Union that:

- the number of farms visited would increase;
- the scope of the programme would be expanded, so that it covers farms which supply dairy calves and cull cows for slaughter and owners of horses supplied by dealers;
- farm veterinary medicine records would be addressed more fully;
- control measures (e.g. suspect listing) would be placed on farms that are in non-compliance with New Zealand sanitary requirements.

In 2016 the numbers of farms audited will be increased by 300 and will for the first time cover dairy farm suppliers. The majority of these audits will be targeted at suppliers of bobby calves.

The scope of the OFV programme in 2016 will ensure:

- a minimum of 1200 farms are audited nationally;
- Farms are selected to provide a geographical spread throughout New Zealand;
- selection is from the export meat slaughter premises list of farmers/suppliers;
- Farms are targeted according to their history of non-compliance with ASD requirements;
- verification scope includes animal identification, origin of animals, animal treatments (and compliance with withholding periods), animal feeds, animal welfare and hormonal growth promotants. The programme continues to also have an educational component for both the primary processors (export meat slaughter premises) and primary producers (farmers/suppliers) involved, but provisions for farmers who do not comply with the requirements have been strengthened;
- an increased effort to ensure compliance with the codes of welfare by making this now a mandatory part of the programme.

In past years, animal welfare has been a voluntary activity in the OFV programme and was essentially educational. Now, the animal welfare component of the programme has a greater focus on compliance with standards. Farms that have selected animals for transport to slaughter that have died or were condemned prior to slaughter, and for which there is no clear evidence of the cause of the mortality, will be targeted for audit with a particular focus on compliance with the relevant codes

of welfare. Where there is clear evidence that the cause of the mortality can be linked to the owner or person in charge of the animal, an animal welfare case under the Animal Welfare Act 1999 will be generated.

The focus over the next few months will be those farms that supply bobby calves.

In developing the scope of the programme MPI has considered the issues raised related to bobby calf welfare in late 2015 and the recent development of animal welfare regulations for calves that were implemented in August 2016.

Dr Richard Wild BVSc

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On-line Continuing Professional Development through the Commonwealth Veterinary Association

The Commonwealth Veterinary Association (CVA) is delighted to be offering an online continuing professional development (CPD) portal.

This portal is connected to the World Veterinary Association (WVA) Education Network and allows the CVA to offer education within the WVA Education Network.

The WVA Education Network offers on-line CPD education from a range of well-recognised providers that is available to all veterinarians, has been peer reviewed, provides subject matter specialists, and gives CPD points for study completed. The network currently provides 1018 modules of on-line CPD, 589 of which are free of charge. Fifty-eight of those modules are directly related to animal welfare. The contents which incur a charge are generally available freely for users from developing countries. It's up to the user to decide which contents they would like to study so for any user it could be free of charge.

This provides the CVA with a way of providing free of charge on-line CPD to all veterinarians within the Commonwealth. Thus far, 4880 veterinarians from 159 different countries have registered with the CVA portal.

Please support this initiative by registering at <http://cva.learning.education/>

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Appointments to NAWAC

The Minister for Primary Industries has appointed Mr Iain Torrance, Professor Graeme Doole and Dr Karin Schütz to the National Animal Welfare Advisory Committee. He has also reappointed Dr John Hellström ONZM as Chairperson for a third term and Mrs Ingrid Collins MNZM and Mr Alan Sharr as members for a second term.



Dr John Hellström has a degree in veterinary science and a PhD in veterinary epidemiology. His extensive background in biosecurity at trade-related and strategic levels both in New Zealand and overseas, has guided the development of New Zealand's biosecurity system over

the past decade. This work was recognised with the award of an ONZM in 2011. John has also been involved in animal welfare policy for many years including, when he was New Zealand's Chief Veterinary Officer, establishing the Animal Welfare Advisory Committee (precursor of NAWAC) in 1990. While working in the veterinary pharmaceutical industry he was deeply involved in efforts to replace animal testing of vaccines with in vitro tests. John will only be with NAWAC until 31 October, when Dr Gwyn Verkerk is due to take over as Chair. More on this next issue.

Iain Torrance was appointed to provide knowledge and experience of animal welfare advocacy and replaced Dr Barbara Nicholas who resigned last year. Iain was Chief Executive Officer of the Wellington SPCA from 2011 to 2015. In 2011 he was elected to the National Board of Royal New Zealand SPCA, where he served as Vice President in 2012 and 2013, becoming Board Chair in June 2013 until the end of his 3 year term in May 2014. Iain is a late in life New Zealand citizen, moving here from the UK in 2003 then holding commercial roles at Ernst & Young, TelstraClear and Coffey International. Iain qualified as an animal welfare auxiliary officer in 2012 and is a founding member of Wellington Zoo Trust animal welfare committee. He shares his home with 2 rescued cats – Monty and Marwood.



Professor Graeme Doole was appointed to NAWAC to provide knowledge and experience within the broad area of agricultural economics. He replaced Dr Katie Bicknell who had served two terms on the committee. Graeme grew up on a sheep and beef farm in Taihape,

and has a background in pastoral farm management. His research is strongly focused on understanding the implications of alternative management strategies for farming systems throughout New Zealand, work that is strongly informed by ongoing relationships with industry organisations. Graeme also currently works as an economic advisor to the Ministry for the Environment, helping communities to understand the trade-offs associated with improved water quality outcomes.



Dr Karin Schütz was nominated by the New Zealand Society of Animal Production to provide knowledge and experience of animal science. She replaced Dr David Scobie who had served two terms on the committee. Karin is an animal scientist with an MSc in biology and PhD in ethology that

focused on behavioural and genetic changes due to selection for high production in chickens. She was born and raised in Sweden and has been a scientist with AgResearch since 2004 where she is mainly working with the welfare of dairy cattle. She is currently proud "owner" of 4 cats that decided that a domesticated life is better than gully life.

Alan Sharr was appointed to provide knowledge and experience of animal welfare advocacy. Alan is a chartered accountant in public practice with more than 30 years' experience and in

this capacity was Secretary/Treasurer of the Canterbury SPCA for two years. Alan has been a member of the Society for many years and has had cats, a dog and budgies. He is also a member of Forest & Bird as well as other related animal welfare and wildlife welfare bodies plus other community



groups. Alan is also the current District Treasurer of Rotary District 9970 having been in that role for 8 years now and is also a long-standing member of Toastmasters International in New Zealand for more than 24 years.



Ingrid Collins was originally nominated by Te Puni Kokiri. Ingrid is a Co-owner, and Chief Executive of Three Rivers Medical Ltd in Gisborne. In 2008 she became a member of the New Zealand Order of Merit for her services to Māori. Ingrid has four decades of experience in Māori Land Incorporations

management and Māori land-based business. Ingrid has spoken on Indigenous Land Development not only in New Zealand but also in Germany, Geneva and China. In addition to a successful sheep and beef farm operation, farming over 50 000 stock units on 8200 hectares on the East Coast of New Zealand, Ingrid's expertise includes 39 years in health management and corporate governance. Ingrid chaired Tairāwhiti District Health Board from 2001 to 2010 and was a board member of the Crown Health Funding Agency in 2011 and 2012. Current directorships include Chair of Whangara B5 Incorporation and Whangara Farms. In addition she is a trustee of Chelsea Private Hospital, of C Company 28 Māori Battalion Returned Services and patron of the Gisborne Malaysian Forces.

Codes of Welfare – update on consultation, development and review since issue 19

Codes of welfare are issued by the Minister for Primary Industries under the Animal Welfare Act 1999. Codes outline minimum standards for care and handling of animals and establish best practices to encourage high standards of animal care.

Codes reviewed and amended

The following codes of welfare are being amended to address changes brought in by Animal Welfare (Calves) Regulations 2016:

- Transport within New Zealand
- Dairy cattle
- Commercial slaughter

In post-consultation process

The following codes of welfare will shortly be recommended to the Minister for issue:

- Amendment to the dairy cattle code to address dairy housing
- Temporary housing of companion animals (a new code)

A complete list of the codes of welfare can be found on our [website](#).

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Codes of ethical conduct – approvals, notifications and terminations since issue 19

All organisations involved in the use of live animals for research, testing or teaching are required to adhere to an approved code of ethical conduct.

Codes of ethical conduct approved

- Alleva Animal Health Ltd
- Estendart Ltd
- Living Cell Technologies New Zealand Ltd

Transfers of codes of ethical conduct:

- Bay of Plenty Polytechnic to Waiariki Bay of Plenty Polytechnic

Minor amendments to codes of ethical conduct notified to MPI

- Landcare Research New Zealand Ltd

Notifications to MPI of arrangements to use an existing code of ethical conduct

- Ag Challenge Ltd (to use AgResearch Ltd's code)
- Alltech (NZ) Ltd (to use AgResearch Ltd's code)
- ASUREQuality Ltd (to use AgResearch Ltd's code)
- Dermvetonline (to use Estendart Ltd's code)
- Franklin Vets (to use AgResearch Ltd's code)
- Goldenberg, Silvan (to use University of Waikato's code)
- Grace, Neville (to use Estendart Ltd's code) (renewal, code expired)
- Intuit Regulatory and Marketing Ltd (to use AgResearch Ltd's code)
- Jurox Pty Ltd (to use Estendart Ltd's code) (renewal, code expired)

- ManukaMed Ltd (to use AgResearch Ltd's code)
- Matamata Veterinary Services Ltd (to use Estendart Ltd's code) (renewal, code expired)
- Medical Plus New Zealand (to use Estendart Ltd's code) (renewal, code expired)
- PJM Scientific Pty Ltd (to use Estendart Ltd's code) (renewal, code expired)
- The Vet Club (to use Estendart Ltd's code) (renewal, code expired)
- Totally Vets Ltd (to use Estendart Ltd's code) (renewal, code expired)
- Universal College of Learning (to use Estendart Ltd's code) (renewal, code expired)
- VetLearn (to use Estendart Ltd's code) (renewal, code expired)
- Vet Services Wairarapa Ltd (formerly Chapel Street Veterinary Centre, to use AgResearch Ltd's code)
- Wellington Institute of Technology (to use Estendart Ltd's code) (renewal, code expired)
- Wellington Zoo Trust (to use Victoria University's code)
- Zoetis New Zealand Ltd (to use Estendart Ltd's code) (renewal, code expired)

Codes of ethical conduct revoked or expired or arrangements terminated or lapsed

- Diatranz Otsuka Ltd
- LWT Animal Nutrition Ltd
- PGG Wrightson Consulting
- Vet Services Wairarapa Ltd

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Jen Jamieson

I moved to Wellington in April 2015 and, since then, have been working as a Technical Adviser in the Codes of Welfare team at the Ministry for Primary Industry (MPI).



Jen Jamieson

My role is to provide information and advice on a range of animal welfare issues both within MPI, and as support to the work carried out by National Animal Welfare Advisory Committee (NAWAC). I really enjoy working in the Codes of Welfare team because every day is completely different, with current work ranging from regulations to wild animals to animals in entertainment. It's hugely motivating to work with people who are so passionate about what they do!

My previous role in the UK was at an Organic Farming charity called the Soil Association,

where I worked on a project called AssureWel, aiming to develop a practical system of welfare outcome assessment for use within farm assurance schemes. Prior to this I studied for a PhD at the Royal Veterinary College (RVC), focusing on "the role of education in shaping the views of UK adolescents (13-15 year olds) on the topic of farm animal welfare, in light of their role both as current and future consumers and future caretakers of farm animals".

Within this research, I benchmarked adolescent beliefs about, attitudes to, knowledge of and relevant behavioural intention regarding farm animal welfare. I then explored the influence on these variables of three different educational strategies, chosen to capture the diverse ways farm animal welfare may be taught: an on-farm one day event conducted externally to the school environment, and delivered by animal welfare staff from the RVC; a one-off use of an RSPCA computer-based interactive resource delivered by school teachers; and an applied science course, known as the Environmental and Land-based Studies Diploma, run within a rural dimension school.

My findings showed great similarity to the wider literature on human behaviour change, both within the field of animal

welfare and more broadly. Overall, adolescents cared about farm animal welfare, but had limited knowledge of relevant welfare issues or product labels, and weak welfare-relevant behavioural intentions. Where occurring, education-associated alterations in measured variables were small and transient, often reducing back to baseline within three months of an intervention. Several barriers preventing welfare-positive behavioural change and adolescent engagement were common across all four studies. These occurred firstly with respect to adolescents, e.g. peer influence, disempowerment and low perceived topic relevance (ownership of change); secondly with teachers, e.g. through a lack of teacher confidence in material delivery; and finally, at the curriculum level e.g. through overload and a strong assessment focus.

People need to truly appreciate the personal relevance of the desired behaviour change for change to happen. To realise the full potential of consumer power, and create an environment where change is possible, a combined strategy of education and market strategies including increased transparency and provision of trustworthy information to consumers is needed. Although alone no step is likely to provide a complete solution, each can be considered an incremental improvement within a wider strategy.

At the time of completing my PhD, conferences focusing on the importance of generating sustainable human behaviour change in animal welfare were disappointingly scarce. This year, within the UK, the First International Conference on Human Behaviour Change for Animal Welfare will take place from the 19-21 September. Anyone with an interest in this area should keep an eye on their website as even if you are unable to attend, it is a great resource through which to keep updated on current discussions in this field:

<http://www.hbcanimalwelfare.com/home.html>.



A student feeding hens at an on-farm one day event

Photo: Jen Jamieson

Making animals in science matter: A new Canadian non-profit launched

How many animals are used in science in Canada each year and for what?

Good question! The answer = we don't really know.

And that is why a new Canadian non-profit organization has been formed - it's time to make animals used in science matter.

The Animals in Science Policy Institute (AiSPI) will fill a greatly needed role as the only national animal welfare organization in Canada dedicated solely to reforming the way animals are used in research, teaching and testing (RTT) by advancing public education about ethics and alternatives to reduce and replace the use of animals in science.

"It's been a long time coming," says Dr. Elisabeth Ormandy, founding Executive Director of the new institute. "Organizations like the NC3Rs and FRAME in the UK, who advocate on behalf of research animals by being actively involved in governance, policy making, and education have existed for decades, so I'm delighted that there is now a Canadian equivalent."

According to national statistics, over three million animals are used annually at publicly funded institutions in Canada for scientific purposes, including RTT. Animal experiments at public institutions (like universities) are overseen by the Canadian Council on Animal Care (CCAC), which is governed by a board of directors comprised primarily of animal researchers themselves.

"The Canadian Council on Animal Care plays an important role for animal research," explains Dr. Norm Willis (DVM, PhD, C.M.), former CCAC Executive Director, who has volunteered to serve as an advisor to AiSPI. "But presenting an independent voice on behalf of animals in science will be crucial to promote

accountability and respect for animals in the Canadian system."

Also relevant is that many more animals go uncounted or ungoverned – including those used as breeding animals at public institutions; any animals in private research companies who are not enrolled as CCAC members; and any animals bought and used for dissections in high school or university. Given there is no required tracking for these numbers, the estimates of actual animals used for Canadian science are impossible to guess.

The Animals in Science Policy Institute was founded in July 2015. The organization's mission is to take an evidence-based approach to advancing public education by providing information about ethics and alternatives to reduce and replace the use of animals in RTT. Its first project focuses on implementing non-animal alternatives to high school dissection.

Even with a phase out of high school dissection in some countries (and bans in others), high school dissection remains a pervasive practice across North America, with an estimated 6 million animals being used each year. This despite myriad non-animal alternatives that are better in terms of educational merit, less costly in terms of annual financial output, and more inclusive, accessible and safe for students of all learning styles and abilities. Not to mention the fact that implementation of non-animal alternatives to dissection would save many animal lives.

Since its founding, AiSPI has spearheaded a strong outreach programme to demonstrate the effectiveness of non-animal alternatives for high school education. Such outreach and education has included numerous high school events both at

individual high schools and at British Columbia (BC) Science World (a public science education centre), liaison with the BC Teachers' Federation, exhibitor booths at teachers' conventions, and the establishment of a non-animal alternatives lending library.

While the AiSPI has started with a focus on high school dissection, the intention is to expand to include education about non-animal alternatives for research and testing, and university level education.

Follow AiSPI on Facebook (www.facebook.com/animalsinscience) and on Twitter (@aisp_institute), or sign up for the newsletter on the AiSPI website:

www.animalsinscience.org

Elisabeth Ormandy
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Dr. Elisabeth Ormandy, co-founder and Executive Director of the Animals in Science Policy Institute demonstrating non-animal alternatives for dissection at a Canadian high school event

Across our desks

Improving survival of newborn ruminants: science into practice

Although we know a lot about the biology of newborn lambs, mortality rates remain high. The authors suggest that the available scientific information may not have been translated sufficiently well to farmers or to those who provide advice. The differences in mortality rates and risk factors between farms suggest that individual farms may need individual solutions to address their own problems. Education and training for advisors, improved record keeping, and farmer support in developing solutions that will work within their farm system could be the answer.

Dwyer CM et al (2016) *Animal* 10, 449-459

Effect of topical anaesthesia on cortisol response to surgical castration

Castration of male calves is a routine husbandry procedure. Practicality and cost-effectiveness of pain management strategies are major limiting factors for on-farm use. To assess the effectiveness of a farmer-applied spray-on topical anaesthetic as an option for pain relief, the study measured cortisol concentrations in response to surgical castration in calves treated with and without spray-on anaesthetic. Although there was no significant difference in cortisol concentrations between groups, there was a trend for lower concentrations in calves treated with anaesthetic.

McCarthy D et al (2016) *Animal* 10, 150-156

Societal views and animal welfare science

This paper suggests that many solutions developed by animal welfare scientists are not widely adopted. They do not adequately address the societal concern that motivated the original research and do not address the perceived constraints within the industry. The authors argue that scientists,

policy makers and funders working on animal welfare must increasingly invest in social science research that addresses these limitations. Examples from their own research in the dairy industry are presented, including access to pasture and early separation of cow and calf.

Weary DM et al (2016) *Animal* 10, 309-317

Keel bone fractures are related to egg laying rates

Keel bone fractures are common in laying hens. De-mineralised bone due to high egg-laying rates may be involved. In this study, laying hens were examined for fractures. Egg-laying and behaviour were monitored. New fractures occurred when laying rates were highest. Hens with keel bone fractures had laid their first egg earlier than hens without fractures. A relationship between keel bone fractures and laying rates is suggested. Changes in behaviour associated with bone fractures indicate that fractures could be painful to hens.

Gebhardt-Henrich SG and Fröhlich EKF (2015) *Animals* 5, 1192-1206

Evaluation of the Salmon Welfare Index Model

How to assess fish welfare is an ongoing debate. The Salmon Welfare Index Model (SWIM) 1.0 is a tool for standardised welfare assessment of Atlantic salmon in sea cages. The study examined whether SWIM 1.0 could be performed in the field within an acceptable period of time and in a sufficiently unambiguous way. Overall, the authors suggest that SWIM 1.0 is a promising model for overall welfare assessment. However, some suggestions for improvements are made, such as improved description of welfare indicator levels.

Folkedal O et al (2016) *Animal Welfare* 25, 135-149

Your feedback

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