

Welfare Pulse

Animal welfare in New Zealand and around the world

NOVEMBER 2017

ISSUE 23

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Thoroughbred Horse Welfare

New Zealand Thoroughbred Racing is ensuring that the lifetime welfare of thoroughbreds is at the forefront of its planning and operations. NZTR General Manager – Commercial & Strategy, Martin Burns, says that the organisation recognises that transparent communication about thoroughbred welfare is crucial for building credibility and accountability with both the public and the thoroughbred industry.

Thoroughbred welfare and peak performance are closely connected. General care and treatments of horses on a day to day basis by trainers, breeders and veterinarians have positive welfare objectives, yet outside of the work of the New Zealand Equine Health Association and the New Zealand Equine Veterinary Association, thoroughbred welfare has been implicit rather than a clearly explicit topic of racing industry policy and practice.

We believe that high welfare standards benefit both the individual horse as well as the industry. Yet we know that public perceptions of racing may be negatively impacted by adverse events such as

injuries or fatalities on the track, or whip use. In response, we're developing an explicit welfare policy and initiatives designed to enhance areas where the industry is performing well and to limit adverse welfare affects wherever possible.

Over past months, we've been grateful to receive feedback from industry stakeholders and welfare organisations, including MPI and the National Animal Welfare Advisory Committee, that helps us understand and address the welfare issues facing the industry, and ensures that we focus on areas that will provide lasting welfare benefits.



Photo: New Zealand Thoroughbred Racing

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The consultation process identified the potential utility of animal welfare expert, Professor David Mellor's "Five Domains Model of Animal Welfare", as a basis of thoroughbred welfare guidelines and policies. Our next challenge will be expressing this model in a practical way so that trainers, breeders and owners understand these welfare guidelines and their context for the racing industry.

The Animal Welfare Act, its supporting regulations and MPI's equine code of welfare together provide an enforceable framework that provides adequate or minimum welfare outcomes for horses. Amendments to the Rules of Racing are planned which will include obligations and require standards of care before, during and after racing that exceed that provided in regulation and codes.

In relation to racing and training injuries, welfare enhancing amendments to racing regulations, along with further academic research and investment in racing infrastructure, are ongoing priorities.

Our duty of care doesn't end when a thoroughbred retires from racing or breeding, however. Thoroughbreds are a versatile breed and our horses should enjoy a long second career after racing. Retraining and responsible rehoming of thoroughbreds is an important focus, and NZTR is committed to ensuring that as many of our horses as possible are retrained and suitably rehomed for second careers as sport or pleasure horses. We will be actively encouraging breeders, owners and trainers to take added care in placing horses with responsible owners after retirement, and we will provide educational resources about the appropriate care of "retired" thoroughbreds. In addition to supporting responsible rehoming, NZTR also responds to the rare cases when thoroughbreds are discovered as neglected and specific practical assistance is required.

Enhanced data capture, academic research targeted on welfare issues, and timely publicly accessible updates of relevant information are also priorities in elaborating a comprehensive fact base relating to the welfare of thoroughbreds.

For more information about NZTR's welfare policies, please contact Martin Burns: martin.burns@nzracing.co.nz

New Zealand Thoroughbred Racing Inc (NZTR) is the governing body of the thoroughbred racing code in New Zealand. It defines, regulates and amends the policies and Rules of Racing for thoroughbred racing. It is the keeper of the New Zealand Stud Book, registers all racing stock, licenses trainers, jockeys and stable hands, maintains New Zealand's largest racing database and supplies the complete race day form for each of the country's 325 thoroughbred race days. www.nzracing.co.nz



What's on NAWAC's desk?

The National Animal Welfare Advisory Committee (NAWAC) meets formally on four occasions each year, with much of the work being done in the time between the committee meetings by the subcommittees. Each November the work programme is reviewed so that plans can be made for the following year.

Codes and Regulations

In 2017, committee work has been focussed on the completion of the Animal Welfare Code for Temporary Housing of Companion Animals, which was recommended to the Minister in June, as well as finalising recommendations for amendments to the code for Dairy Cattle to set standards for dairy housing. One subcommittee was also engaged with MPI staff in the development of animal welfare regulations, of which 42 were recently recommended to Cabinet. The focus of the next tranche of regulations for development is predominantly upon surgical procedures such as embryo transfer and laparoscopic insemination, with future plans looking to regulate a range of situations that can influence the welfare of animals, including provision of shelter and appropriate body condition score.

Review of codes of welfare

The amendments to the Animal Welfare Act in 2015 have implications for both the role and function of codes of welfare, so NAWAC is examining these matters and considering the best way to progress them in our future work. We are seeking feedback from both sector representatives and the public on their knowledge, understanding and use of the codes of welfare. During August and September, an internet survey gathered information about public awareness. Key stakeholders were also invited to complete a written survey to gain a greater understanding of the ways that they use the codes. This information will assist the development of the relationship between codes and regulations as part of the New Zealand Animal Welfare System.

Sentience Workshop

In November 2017, NAWAC and NAEAC will host a joint workshop to explore the implications of the legal recognition of animal sentience in the 2015 amendments to the Animal Welfare Act. The proper acknowledgement of sentience requires that both the positive and negative emotional states of animals need to be considered. Future standards may need to include attention to the balance between positive and negative emotions, and potentially whether measures for enhancement are needed.

The programme being planned includes presentations from academic, government and industry sectors covering emerging science including the "Good Life" Concept, trends in social opinion, and the legal implications of the amendment. The facilitated workshop will then gather the different perspectives of stakeholders as to the impact of the changes on their work in the animal welfare dimension, as well as how animal sentience might be acknowledged in future code and regulation development. This will sit alongside the results of the codes review survey, to inform the committee's future work plans.

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Codes of welfare – update on consultation, development and review since issue 22

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.

Recommended to Minister

- Temporary Housing of Companion Animals

In post-consultation process

- Dairy housing amendment

A complete list of the codes of welfare can be found on our website.

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Using sharks for research: experiences of managing shark welfare in the wild

Over the past 15 years, there has been a continuing trend of miniaturisation of electronic components, and the discovery of creative new ways to learn more about animals, sharks included. Satellites can tell us where sharks go; temperature and salinity sensors can tell us what the water is like; accelerometers can tell us how the sharks swim through the water; and cameras can answer questions about feeding.



Warrick with rig shark Credit: Pete Notman

My childhood love of the marine environment eventually led to a Master's degree from the University of Canterbury, followed by 10 years as a fisheries technician at the National Institute of Water and Atmospheric Research (NIWA), Wellington. During this time I have been trying to learn as much about sharks as I can including where and when they spend their time and whether they return to already visited areas. I've also been studying part-time for my PhD with the University of Auckland, focusing my research around a shark tracking system that a friend and I designed and built. Much of this research at NIWA and for my studies has been the first of its kind in New Zealand. If we try something new and it doesn't work, we can't go into the laboratory or paddock and try and fix the problem, because a shark just swam off with our equipment. Because of this, we sourced tracking tags from overseas that have been successful at minimising impacts on the natural

movements and mobility of the sharks. Using these tracking systems, NIWA and the Department of Conservation (DOC) discovered that our great white sharks spend their summers at Stewart Island and their winters in the tropics. We've also tracked juvenile mako sharks from the northern North Island, travelling as far north as the Fiji and Tonga and as far south as Blenheim. Such tracking becomes much more difficult with smaller sharks such as the New Zealand rig shark (also known as the spotted dogfish), most of which are under one metre in length.

Over the past five years, as part of my PhD research, we have developed our own shark tracking system. Our first experiment was to calculate the impact of the equipment on the rig sharks that it was designed to track, and to ensure that any effect was minimal and would be unlikely to change the sharks' behaviour. The rig sharks in Porirua Harbour (just north of Wellington on the west coast) were initially thought to swim into the shallow water at high tide to feed on crabs, but through tracking them, we have learned that they avoid shallow waters, and even avoid swimming over sand-bars.

Throughout the history of shark research, the lowest-impact tags have produced the lowest quality and quantity of knowledge gained, whereas the highest-impact tags have revealed the greatest amount of information. For example, the simplest of tracking tags, a uniquely numbered 'ear tag' for sharks, tells nothing unless someone catches the animal, and even then only the start and end point of any shark movement can be known. Electronic tracking tags with GPS location accuracy and satellite communication tell where the shark is in real time, but deployment of those tags involves the capture and retention of the shark on or next to the boat,

and attachment of the tag to the shark's dorsal fin before it is released.

During our research we have successfully followed two of the 3Rs. As the tagging technology improves, the success rate of the tags improves, resulting in a *reduction* in the number of sharks needed for research. Before we start any new research we discuss our plans with international colleagues in order to *refine* our methods, in order to further *reduce* any stress placed on the animals from the tagging process.

Over the next five to ten years, tracking tags will become even smaller and will be able to be attached to smaller shark species, not just the big ones. The tag attachment process will be minimised even further, and we hope to discover new ways of learning why sharks do what they do, and go where they go.

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Warrick Lyon Credit: Dave Allen/NIWA

Compassion Fatigue – The Cost of Killing

Animal care workers such as veterinarians, vet nurses, laboratory animal workers and animal shelter workers are at an increased risk of developing compassion fatigue. Compassion fatigue and the associated psychological and physical symptoms are of significant concern. Understanding of the risk factors, symptoms and methods to prevent compassion fatigue and assist people suffering from compassion fatigue are vital components of ensuring that animal care workers can continue to do their important work. Employers of animal care workers need to be aware of the risk factors for compassion fatigue in their staff and should ideally implement proactive strategies to help prevent compassion fatigue and assist those staff suffering from compassion fatigue.

Compassion fatigue is the emotional and physical exhaustion triggered by traumatic events, such as cruelty cases, major trauma events, or constant exposure to euthanasia and is often referred to as “the cost of caring” or the “caring-killing paradox”. Compassion fatigue produces lower levels of job satisfaction, high employee turnover and generates a variety of physical and psychological symptoms ranging from mild to severe.

Physical symptoms can include high blood pressure, ulcers, sleep disorders, headaches, as well as affected genetic processes, such as the decrease of telomeres length.

Psychological problems can include loss of interest in work; frustration/anger; lack of tolerance; withdraw from joyful activities and friends; mood swings; conflict with friends and family; sleeping and eating difficulties; acute emotional pain; anxiety attacks; substance abuse; and suicide.

Veterinarians are at a significant risk for compassion fatigue and experience higher levels of anxiety, depression, burnout and stress than the general population. Research has shown that the prevalence of death by suicide in veterinarians is four times more likely than for a member of the general public. In New Zealand, a 2006 study identified that 15 percent of veterinary professionals had had serious thoughts about suicide, and 2 percent had already attempted suicide. Likewise, a 2015 New Zealand study reported that 82 percent of veterinary nurses had experienced compassion fatigue. However only 3 percent had sought professional assistance with this and 50 percent considered changing career because of it.

Animal shelter workers are also at significant risk of developing compassion fatigue with one study reporting anger in

approximately two out of every three staff members, as well as extremely high levels of sadness, crying, depression, irritability, and grief when euthanasing animals. In another study that asked shelter staff whether euthanasia contributed to their burnout, 74 percent agreed or strongly agreed. In addition, higher levels of work stress, stress-related physical symptoms, work-family conflict, and reduced job satisfaction were seen in staff who regularly euthanased shelter animals compared to those who were not directly involved.

Scientists and animal technicians involved in studies that require animal use and euthanasia also regularly report symptoms of compassion fatigue, such as depression, anxiety, sleep loss and increased alcohol consumption, with underlying themes of discomfort, uneasiness and guilt. An American study investigating this topic reported displaying feelings as being frowned upon in the scientific profession and generally poor to no institutional support is given. Likewise, showing emotions or unwillingness to perform euthanasia were negatively perceived by peers, which contributed to high levels of emotional dissonance. This is very problematic, as other research has shown that support from peers is crucial in coping with euthanasia of experimental animals.

Methods to reduce the risk and impact of compassion fatigue in animal care workers include modifying the work environment to reduce sources of stress e.g. formal and informal support sources, stress and coping seminars, staff rotation, breaks following euthanasia tasks and comfortable and private rooms to perform euthanasia, longer but less frequent sessions.

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Meet MPI's Latest Animal Welfare Inspectors

The Ministry for Primary Industries Animal Welfare Compliance Group has recently recruited 6 new Animal Welfare Inspectors.

Mose SASEVE; AWI New Plymouth

Mose has been with the Ministry for 16 years. During that time he has held various roles in Operations and Operations Support (Senior Business Adviser). Most recently his work focus has been operational implementation of new/updated legislation. Mose's experience working with production animals comes from helping out his wife's family on their dairy farm.

Bianca UPTON; AWI Napier

Bianca joined MPI two years ago as a Systems Officer through the Empty Sea Container pathway. During her time in this role, she has completed offshore audits of container cleaning facilities based in the Pacific Islands and dealt with external stakeholders. She also completed a three month secondment with the Compliance Investigations team in Auckland. Bianca has assisted on various dairy farms in the South Island during calving season.

Lucy NEWTON; AWI Masterton

Lucy is originally from Cheshire, England, where she studied Animal Behaviour and Welfare at Harper Adams University. A placement at Cogent, the United Kingdom's dairy genetics sales team, during her third year at university prompted her interest in dairy cattle, and led her to undertake an Honours research project investigating different milk replacer concentrations and its effects on health of calves. After arriving in New Zealand, Lucy worked on a dairy farm in Waikato before becoming an Animal Control and Compliance Officer for Buller District Council and later an Animal Management Officer for Christchurch City Council. Lucy's main interest outside of work is endurance horse riding.

Amanda TURNER; AWI Christchurch

Amanda comes to us having almost 10 years compliance experience with the Ministry. She initially started as a Fishery Officer, then took up a role as an Emissions Trading Scheme (ETS) Compliance Officer. Most recently, Amanda has been a trainer with the Regulatory and Operations Training Team. Amanda's experience working with production animals comes from growing up around livestock on her father's dairy farm. Additionally, she has kept both horses and cows on her own lifestyle block, as well as looking after neighbouring dairy and beef farms on a regular basis. Amanda will be relocating from Whangarei to her new role as Animal Welfare Inspector based in Christchurch.

Tom TENETI; AWI Gisborne

Tom owns his own small farm and brings considerable compliance experience to the group and is looking forward to the challenges associated with animal welfare work in the Poverty Bay area.

Blair CAMPBELL; AWI Hamilton

Blair worked for the Waikato Regional Council where he was a Senior Incident Response Officer responsible for investigating allegations of noncompliance with the Resource Management Act 1991 and the Waikato Regional Plan. Blair brings with him significant stakeholder and client relationships that will be very valuable in his new role as an Animal Welfare Inspector.

These new positions bring the total number of full-time Animal Welfare Inspectors to 22. Four of these Inspectors have had previous roles within MPI. It's great to see skilled people with a passion for animal welfare able to transfer their skills from one branch of MPI to another.



Lucy Newton inspects Highland cattle during an onfarm training exercise
Photo credit Morwenna Glenie

Training commenced in June 2017 with an 18 day residential course at the Burnham Military Camp. This is known as the Foundation Course and is undertaken by all Compliance Officers within the Operations branch of MPI (Biosecurity, Fisheries, Food, and Animal Welfare).

The first week of the course is focused on team building as a cohort, Maori cultural capability, and getting to know who does what within MPI. Guest speakers included the Director-General Martyn Dunne and the Chief Operations Officer Roger Smith.

All Compliance Officers require a set of generic technical skills no matter what sector they work in. This includes good communication techniques, note-taking, statements, and evidence-gathering. A start is made on acquiring those technical skills in the first course.

The Animal Welfare Inspectors are also introduced to the Animal Welfare Act 1999. It's important all our Animal Welfare

Inspectors have a very good knowledge of their powers under the Act, so they can confidently go onto farms to inspect animals and then take the required action to mitigate any pain or distress animals are suffering. On some occasions they may be required to gather evidence and take legal action where they believe offences may have been committed.

By week 3, the recruits have had enough of the classroom and are pleased to get out and have a look at some farms and animals. On the Canterbury plains, they get some practice conducting an onfarm inspection with an experienced Inspector.

In November, the new recruits will head to the Taratahi Training Farm in the Wairarapa. This is very much a “learn by doing, get your hands dirty” course where many aspects of animal husbandry in sheep, beef, dairy and deer farming are covered. A key focus, along with animal husbandry, is keeping yourself safe on farm. During this course, they will hone their 4WD driving skills and get some practice on the range, using their issued firearms in preparation for the day they are required euthanase animals.

From there the animal welfare recruits enter the Compliance Career Development Framework. This Framework was launched by Martyn Dunne in Auckland in July. The Framework sits within the Operations Career Pathway and builds on a Compliance Officer’s technical enforcement skills and specialist animal welfare knowledge over a period of years, until they are regarded as an expert in the field of animal welfare compliance. Some Animal Welfare Inspectors may put their name forward for leadership training if over time they want to be considered for a management role.

Further update on the development of Animal Welfare Regulations

During 2016, the Ministry for Primary Industries (MPI) consulted on a suite of proposed animal welfare regulations. MPI received around 1500 submissions in addition to feedback during a series of public meetings and workshops. MPI also held targeted meetings with stakeholders in early 2017 to further discuss the proposals and any outstanding issues. The submissions and feedback received came from a wide range of individuals and organisations, all with different perspectives on animal welfare.

MPI has prioritised the development of these regulations based on where the most immediate animal welfare benefit will be achieved. Regulations related to the management of young calves and live animal export were fast-tracked and introduced in 2016.

On 19 July 2017, Minister for Primary Industries Nathan Guy announced that a further 46 of the animal welfare regulations will be developed during 2017. These regulations include stock transport, farm husbandry, companion and working animals, pigs, layer hens and the way animals are recorded in research, testing and teaching.

Most of these regulations will come into effect on or before October 2018, with the exception of those pertaining to disbudding and dehorning in cattle, which will come into effect on October 2019. The lead-in time for the regulations will enable farmers, processors, transporters, veterinarians and others to ensure that they have systems and processes in place before the new regulations take effect.

MPI will work to have the final package of regulations, consulted on in 2016, introduced in 2019. This final package relates to carrying out surgical and painful procedures on animals. These regulations will clarify the rules around who may do surgical and painful procedures on animals and under what circumstances.

Some of the proposals consulted on during 2016 will no longer be progressed at this time as they are not suitable for regulations, are too narrow in scope, or have no immediate compliance issue.

More information, including Cabinet decisions and media releases, is available at the following link:

<https://mpi.govt.nz/law-and-policy/legal-overviews/animal-welfare/animal-welfare-regulations/>

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Planning for animals in disasters

New Zealand is a disaster prone country. Located at the juncture of the Australian and Pacific tectonic plates, New Zealand is constantly on the move as these two plates collide. In addition, we are susceptible to hydro-meteorological events (e.g. cyclones, storms, floods). The recent cyclones Debbie and Cook which battered New Zealand – particularly the Bay of Plenty – in April are testament to the fact that the Asia Pacific region is very prone to such events. Hydro-meteorological events accounted for over 70 percent of intense natural disasters in the region between 1971 and 2010. We also know that hydro-meteorological and climatological disasters (e.g. droughts), rather than geophysical disasters (e.g. earthquakes and volcanic eruptions), have been trending upwards in recent decades. New Zealanders are particularly vulnerable because so many of us live near water.

Disaster preparedness for animals has economic, social and welfare benefits, yet many countries continue to omit animals from their national and regional contingency planning. Responses are often chaotic, inefficient and uncoordinated, or absent altogether. Hurricane Katrina was a wakeup call to the world about what happens if people can't evacuate with their pets – people refuse to leave or they return illegally to retrieve their animals, putting themselves – and the rescue teams who may have to save them – at risk. This also applies to livestock.

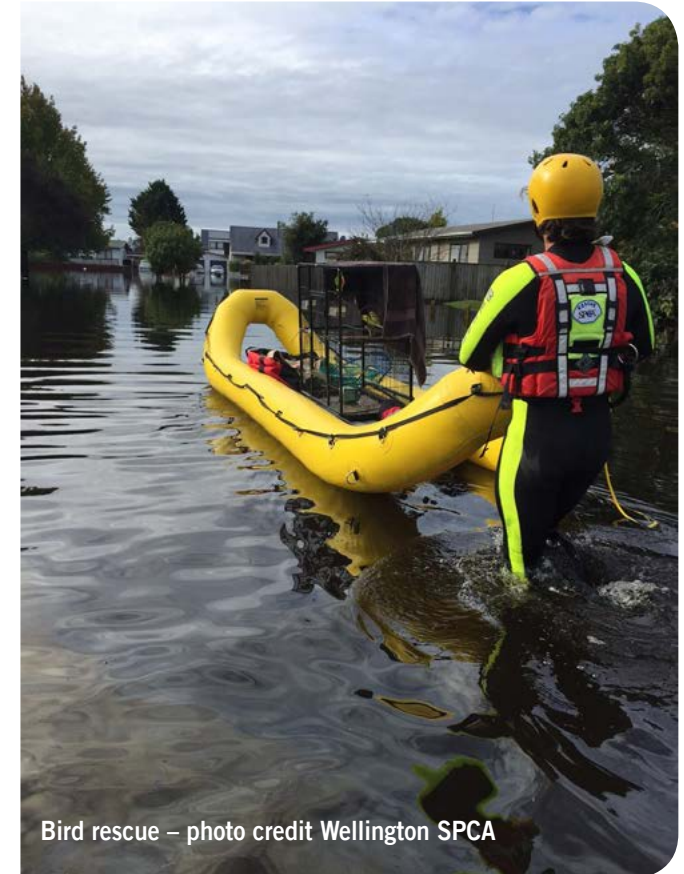
Studies indicate that 20-30 percent of human evacuation failures are related to pet ownership. As Cyclone Debbie was bearing down on the Bay of Plenty, residents of the township of Edgecumbe were forced to evacuate. But those with pets were reluctant to leave without them and farmers in the area refused to leave before they were satisfied their cows were safe. More recently in the Otago floods in late July, farmers on the Taieri Plains refused to evacuate without first moving their stock to safety. The refusal of animal owners to leave places Civil Defence personnel under stress and hampers evacuation activities.

New Zealand does recognise animals in its disaster planning. The New Zealand Animal Welfare Strategy has a commitment to better planning to prevent animal welfare problems including planning for adverse events. We are still on a learning curve though. Under the National Civil Defence and Emergency Management (CDEM) Plan, the Ministry for Primary Industries (MPI) is the legally recognised agency with the lead responsibility for animal welfare in emergencies. MPI is assisted by a number of support agencies, including the SPCA, Federated Farmers, the New Zealand Veterinary Association,

the New Zealand Companion Animal Council, and territorial authorities (through Animal Control). Fortunately the CDEM “sector” is well aware of the need to address and plan for animals in a disaster.

As lead agency, MPI's responsibilities are to coordinate the provision of animal welfare services for all animals, including companion animals, production animals, animals in research, testing and teaching facilities, zoo animals, and wildlife; to coordinate the planning for animals in emergencies; and to report to and advise Government on animal welfare in emergencies. MPI's role is to ensure that the needs of animals are provided for when their owners are not able to do so themselves as a consequence of the emergency. Animal needs, like those of humans, include the provision of rescue, shelter, food, water, health care etc.

MPI is heavily reliant on the assistance provided by its support agencies. In the Edgecumbe floods, we were extremely lucky to have the assistance of the animal rescue units from the SPCA and the Massey University veterinary school. The SPCA's National Rescue Unit was deployed immediately. Team members include SPCA inspectors and veterinary nurses. Massey's veterinary animal rescue team arrived soon after. The permanent members of these teams have received specific training such as Urban Search and Rescue (USAR), large animal rescue, triage, animal behaviour and swift water rescue. The swift water training was put to frequent use in Edgecumbe as the teams repeatedly negotiated water contaminated with sewage, diesel and debris.



Bird rescue – photo credit Wellington SPCA

Over 800 companion animals were rescued from the Edgecumbe township including cats, dogs, aviary birds, poultry and a smattering of livestock. The hardworking teams worked tirelessly into the night rescuing and relocating stranded animals. Rescued animals were temporarily housed at the

local SPCA, with the local animal control facility on standby to take any overflow. A temporary morgue was set up. In the surrounding farmlands, there was another rescue operation taking place – thousands of dairy cows were evacuated. This was an army-like campaign and was a collaborative organisational effort by Federated Farmers, Fonterra and the Livestock Improvement Company. Fortunately calving had not started and so cows were not lactating.

Readiness (or planning) is one of the 4Rs of the disaster management cycle – the other three being response, recovery and risk mitigation. And, as the adage goes, “failure to plan is a plan for failure”. Currently MPI is working with CDEM Groups through the country to develop plans for animals. In addition, it is working with rural communities to encourage the establishment of rural advisory (coordinating) groups mainly aimed at addressing human welfare needs, but also including animal needs. In rural areas, human welfare and animal welfare go hand in hand.

Dr Sebastian Heath, a US veterinarian, says, “emergency managers can take advantage of the bond people have with their animals to instil appropriate behaviour amongst pet owners in disasters.” Veterinarians can also assist with this. “Vets play an important role in responding to disasters but,” says Heath, “they could play a more significant role by shaping society’s attitudes to animals and by disease mitigation and preparedness.” MPI is now considering how it might create a veterinary emergency reserve across the country to complement and strengthen the SPCA and Massey teams.

While we still have a lot of work to do each disaster is a further learning experience and we get better at responding to animals’ (and their owners’) needs in disasters.

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Cattle saved from drowning – photo credit Karen Gow

The backstory on the cattle is that they had given up and would have drowned. To rescue them, SPCA inspectors literally swam through floodwater which was so deep they could feel the tops of the gates with their feet.

Animal Ethics Committee Service Award

Animal ethics committee (AEC) service awards are given by the National Animal Ethics Advisory Committee (NAEAC) in recognition of “meritorious service for at least five years on the basis of outstanding contributions to the AEC on which the nominee has served”. NAEAC has made an award to Sharon Bennie. Sharon has served as AgResearch Invermay’s AEC secretary for 20 years.

Sharon’s duties involve meeting organisation, record keeping and correspondence covering two AgResearch campuses and a number of third parties using the AEC. She also ensures obligations around reporting and collecting animal use statistics are met. The award was presented to Sharon by NAEAC Chairman Grant Shackell.

Nominations

AECs or their institutions are welcome to submit nominations to NAEAC at any time for AEC Service Awards for members who have made an outstanding contribution. Names of those receiving awards are only published with their agreement.



Sharon Bennie receiving her award from NAEAC Chairman Grant Shackell. (Photo credit B Shackell)

Attitudes to animal welfare during transport and slaughter in South East and East Asia

Increasingly an important player – importer, exporter and consumer – in the livestock industry, Asia now accounts for approximately half of global meat production. China alone produces 39 percent of all such production worldwide, almost twice as much meat as the second highest producer – the USA. With the increase in export trade from Asia to importing countries with higher welfare standards and expectations (such as the European Union), there is now a greater focus on how livestock are treated through the supply chain. In addition, there is also a growing concern for animals within the Asian countries themselves.

The way animals are treated depends very much on the attitudes of those dealing with them – what their beliefs around animals are. A series of papers that have grown out of a recent collaborative project by the University of Queensland and Universiti Putra Malaysia give some interesting insights into the attitudes of people in a selection of Asian nations to animals and how they should be treated. “Understanding cross-cultural differences in attitudes to animal welfare is important in maintaining good international relations, including economic and trade relations,” says Project Manager Michelle Sinclair of the University of Queensland’s Centre for Animal Welfare and Ethics (CAWE).

The project itself was primarily focussed on enhancing local stakeholder knowledge of four of the OIE’s (World Animal Health Organisation’s) animal welfare standards in the Terrestrial Animal Health Code – the slaughter of animals for human consumption and the transport of animals by land, by sea and by air – as well as training and updating key personnel in transport and slaughter practices. However, given that little was known about how people in Asian nations, including those within the livestock industries, felt about how animals are treated, it also provided the opportunity to explore the attitudes of those intimately involved with livestock in the four selected countries – China, Thailand, Vietnam and Malaysia. The particular focus of this attitudinal research, then, was on the influences and barriers to improving welfare practices in the slaughter and transport of livestock.

One example is a study¹ that looked at the attitudes of stakeholders to animal welfare during slaughter and transport in China, Thailand, Vietnam and Malaysia, with the target group including slaughter personnel, transporters, livestock slaughter and transport business owners and managers, senior livestock veterinarians, livestock farmers, agriculture academics and government agriculture representatives. The results indicated that the country in which respondents lived was the most significant factor influencing attitudes to animal welfare. As an example, religion was significantly associated with attitudes in Malaysia, a country where more than 60 percent of the population is Muslim. Given that Islamic doctrine requires that unnecessary animal suffering be avoided in the slaughter process, religion is an important influencing factor in animal welfare. On the other hand, religion and personal beliefs were the least influential factors for Chinese and Vietnamese respondents in evaluating animal welfare, while legalities were the most influential factors for both these countries. The authors point to the similar cultures, geographic

¹ Sinclair M, Zito S, Idrus Z, Yan W, van Nuiem D, Lampang PN, Phillips C. Attitudes of stakeholders to animal welfare during slaughter and transport in SE and E Asia. *Animal Welfare* (in press)



**The project team with the attendees of the “train the trainer” facilitators workshop at South China Agriculture University in Guangzhou.
Credit: Animal Welfare Standards Project.**

proximity and a shared history of communism as pertinent in these results.

In addition, this work indicated that changes prescribed by western international organisations were rarely cited as influential in altering practice across these countries. While

continued...

European attitudes, as expressed in the latest Eurobarometer survey², showed that 93 percent of Europeans were more likely to strongly agree “imported products from outside the EU should respect the same animal welfare standards as those applied in the EU” (93 percent), and nine out of ten respondents (90 percent) agreed “it is important to establish animal welfare standards that are recognised across the world”, there is more to improving animal welfare than the simple imposition of standards. Project Manager and research author Michelle Sinclair states “the results of this research and our coming research have real world implications for the way in which we approach international animal welfare standard work in the future.” For example, she suggests that engagement of stakeholders in animal welfare improvement initiatives will be more likely when those initiatives are tailored to local audiences and when local leadership is encouraged, so that change comes from within.

The role of religion in influencing attitudes towards animal welfare issues associated with the slaughter of livestock was further explored in another piece of research³. This study surveyed the perspectives on the use – or not – of stunning prior to slaughter, drawing samples from a wide socio-economic demographic in two countries – one (Malaysia) where the population is predominantly Muslim, and the other (Australia) where the population is predominantly non-Muslim. Both cultures were in favour of legally controlling animal welfare during slaughter. However, there appeared to be a lack of understanding that halal slaughter with stunning is allowable in some jurisdictions as long as the stun is reversible. Australian respondents tended to disapprove of non-stunning on welfare grounds. This was associated with a feeling that the quality of the meat from non-stunned animals was poorer. Interestingly and in contrast, Malaysians saw the meat quality as improved without stunning, mainly, it seems, through a spiritual context.

2 European Commission. Attitudes of Europeans towards animal welfare. Special Eurobarometer 442, 2016.

3 Jalil N, Tawde A, Zito S, Sinclair M, Idrus Z, Phillips C. Attitudes of the public towards halal food and associated animal welfare issues in two countries with predominantly Muslim and Christian populations (submitted).

Does a person’s role within the livestock industry effect attitudes to animal welfare? This was the question asked in further research⁴ in China, Malaysia, Thailand and Vietnam, where the aim was to ascertain the attitudes of stakeholders in different parts of the livestock industry. Perhaps not surprisingly, motivation was shown to depend very much on individual roles: farmers were more motivated by their peer groups, business owners by monetary gain and business managers by what is prescribed by their company, while, across the board, veterinarians showed the most support for improving animal welfare. Such information is useful, for it is in identifying what motivates those in particular roles to improve livestock wellbeing that efforts to improve welfare can be targeted towards specific roles within the supply chain.

A final piece of attitudinal research within this project focused on China alone, asking livestock stakeholders to rate their animal welfare concerns during slaughter and transport. While the paper arising from this study is still being drafted, Michelle Sinclair says “our initial analysis shows that stunning prior to slaughter is being identified as the most important animal welfare concern in China, according to livestock stakeholders themselves”. She goes on to state that “this means there is mutual ground with animal welfare science, given that there is agreement that the lack of stunning is an area of critical concern in welfare. It also might indicate that this area could be an “easy win” in regards to engaging livestock stakeholders, since they already identify it as an issue... so it might be a great place to start”. The importance of this, she says, is underpinned by what is reportedly inconsistent use of stunning, which varies greatly from small and medium to large slaughter operations, with practices also varying considerably between provinces and species. She points to hopes for future research that should both identify stunning rates and investigate stakeholder willingness to embrace stunning. While stunning was the main animal welfare concern raised, others identified in

4 Sinclair M, Zito S, Phillips CJC. The impact of stakeholders’ role within the livestock industry to livestock welfare in SE and E Asia. *Animals* 2017, 7(2), 6; doi:10.3390/ani7020006

this China-focused survey included stress during transport and thermal discomfort.

The project – the Animal Welfare Standards Project (www.animalwelfarestandards.org) – from which this attitudinal research was drawn, was a collaboration between the University of Queensland and Universiti Putra Malaysia, supported by the New Zealand and Australia OIE Collaborating Centre for Animal Welfare Science and Bioethical Analysis: The David Bayvel Consortium. The aim was twofold – firstly to enhance local stakeholder knowledge of the OIE’s animal welfare standards in the Terrestrial Animal Health Code for the slaughter of animals for human consumption and the transport of animals by land, by sea and by air – and secondly, to train and update key personnel in improved animal welfare practices in transport and slaughter, so as to enable implementation of these standards. The associated research gives some interesting insights into attitudes to issues of animal welfare in the four target countries. More fundamentally, the findings suggest that tailoring initiatives to local audiences is critical to engaging stakeholders and making real progress in animal welfare.

Virginia Williams
Animal welfare consultant



Group round table: Chinese livestock stakeholders attend locally coordinated training sessions in Guangdong, China.
Credit: Animal Welfare Standards Project

Animal welfare at Science Week

The Australian and New Zealand College of Veterinary Scientists (ANZCVS) is the post-graduate college for veterinarians in Australasia. College Membership signifies that a veterinarian has expertise and competence in a nominated subject area. To become a member of the College a candidate must have at least four years post-graduate experience as a veterinarian and have successfully completed both written and oral/practical examinations in one of the diverse range of subjects on offer. Examinations for Membership and Fellowship are held during the College's Science Week in early July on the Gold Coast, with most Chapters of the College also holding scientific meetings at this time.

The Animal Welfare Chapter, established in 2000 with the first membership exams held in 2001, now boasts 81 full and two associate members. This year, with "One welfare – key drivers and new technology" as the theme, members and visitors were treated to a wide range of topics from humane killing of fish (for quality as well as welfare) to technical innovations to enhance welfare in the dairy industry. The Chapter sessions were well attended, with between 20 and 30 at each. These included a number of attendees from different chapters for at least some sessions.

Of the 29 presentations, twelve were delivered by New Zealanders or New Zealand residents:

- Kat Littlewood, Massey University: Vets, owners, and older cats: exploring euthanasia decision-making in practice
- Natalie Waran, Professor (One Welfare), EIT (2): One welfare: the companion conundrum and Using a 'One Welfare' approach to engage veterinary educators in developing countries
- Becky Murphy, Canine Health & Welfare Officer, Dogs NZ: Ethical breeding standards
- Kirsty Chidgey, Massey University: Considering sow and piglet welfare in different farrowing systems: New Zealand perspective
- Jess Shelgren, Fonterra: Market drivers and consumer perspectives in the dairy industry: dairy veterinarian's perspective
- Suzanne Dowling, AgResearch Ruakura: Dairy – technical innovations and welfare

- Kerry Mulqueen, Adviser to the poultry industry: On farm assessment and independent auditing in New Zealand
- Nita Harding, DairyNZ: What is really happening down on the farm?
- Jen Jamieson, MPI Animal Welfare Team: Human behaviour change starts with schools
- Virginia Williams, Animal Welfare Consultant (2): Progressing the regulatory framework for ethics, wastage and other welfare issues for animals in research and Factors underlying animal welfare offending (for Mark Fisher and James Kane)



Professor Natalie Waran presents at Science Week
Photo credit: Kat Littlewood

Highlights:

The One Welfare theme lent itself to a diverse range of presentations on a broad range of topics from small animal welfare to livestock, lab animals and wildlife.

A number of presentations around euthanasia of companion animals, reflecting the importance of pets to the welfare of their owners, and decision-making around when to euthanase versus palliative care, and the importance of not confusing survival-critical behaviour in old or ailing pets (e.g. eating, urinating) with behaviour that might indicate a more hopeful outlook.

An excellent presentation by Paul Hardy-Smith, veterinarian and Managing Director of Panaquatic Health Solutions, a private company servicing aquatic animal industries in Australia and internationally. He collaborates with Victoria Braithwaite, Professor of Fisheries and Biology and the co-director of the Centre for Brain, Behaviour and Cognition at Penn State University, and author of the book "Do fish feel pain?" Paul stressed the need for immediate killing of fish using humane methods for both welfare and quality reasons.

Breeding for more resilient livestock

Supplied by Beef + Lamb New Zealand Genetics

New Zealand ram breeders are world leaders when it comes to breeding more resilient livestock. Supported by Beef + Lamb New Zealand (B+LNZ) Genetics, breeders have made significant progress over the past 20 years addressing the key welfare issues of facial eczema resistance, parasite resistance and lamb survival.

Facial eczema tolerance in sheep

Facial eczema can be a significant disease for sheep, particularly in the northern North Island of New Zealand. It's caused by the toxic spores of a fungus that lives in the base of pasture. The toxin causes liver damage, reduces productivity and in severe cases leads to death.

The severity of outbreaks varies between and within years and is related to environmental conditions – temperature, humidity and pasture quality – i.e. conditions that favour fungal growth.

Sheep vary in their response to the spore, suggesting a genetic variation for tolerance – and that has been proven by pioneering breeders' selection programmes and experiments undertaken by scientists.

Facial eczema tolerance is strongly heritable and selection to improve tolerance does not impact on productive traits or other aspects of sheep welfare. Commercial farmers who have been buying eczema-resistant rams over several years can face facial eczema outbreaks with minimal impact on production.

Resistance to internal parasites

Parasite resistance to one or more drench types is increasing. Breeding sheep that are more resistant to internal parasites is the best long-term strategy.

New Zealand has sires whose progeny produce 50-60 percent fewer parasite eggs as lambs, and 60-75 percent fewer eggs as adult ewes. This reduces overall farm contamination – so newborn lambs, which have no immunity, face less exposure.

Selecting for parasite resistance is time consuming but some New Zealand ram breeders have been selecting for resistance

for 16-plus years and their progress has been remarkable. Thanks to the hard work of these individuals, commercial farmers are now able to breed resistance into their flock, while also achieving good progress in lamb growth rates and other traits.

Lamb survival

Since 2000, the number of lambs born per 100 ewes has gone up by 12 head – i.e. there are more multiple births. You would expect lamb survival would reduce, particularly with more triplet-born lambs, but New Zealand has actually gained ground for survival.

Lamb survival depends on many factors including genetics, management and the environment (particularly weather conditions). Genetically, there are two aspects to lamb survival: lamb vigour and ewe attributes. Lamb vigour is about being able to maintain body temperature and being quick to stand. Ewe factors include the actual birth, seeking shelter, and staying on the birth site to form a strong lamb-ewe bond.

B+LNZ and B+LNZ Genetics support breeders and commercial farmers with tools and resources:

www.blznzgenetics.com

www.beeflambnz.com/farm/farm-facts-resources/



Breeding sheep that produce fewer parasite eggs reduces overall farm contamination. As a result, newborn lambs face less exposure. Photo courtesy B+LNZ

Graham Alder
General Manager
B+LNZ Genetics
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Appointments to NAWAC

The Minister for Primary Industries recently appointed Nick Poutu to the National Animal Welfare Advisory Committee to replace Dr Penny Fisher who resigned after serving almost six years on the committee. Mr Poutu provides the committee with knowledge and experience of environmental and conservation management. Nick works as a Technical Advisor for the Department of Conservation (DOC), providing specialist advice for animal pest management. This includes pest control methods, legislative and regulatory requirements, and animal welfare in pest control operations. Nick has been a DOC representative on the National Pest Control Agencies (NPCA) Management Committee which provided advice and quality assurance for the vertebrate pest control industry. Previously he worked as a research

technician for Manaaki Whenua – Landcare Research with a focus on the control, impacts, and ecology of vertebrate pests.

The Minister also reappointed Mr Iain Torrance and Dr Julie Wagner for a second term.



Photo credit for photo of Nick: Celia Poutu

Codes of ethical conduct – approvals, notifications and terminations since issue 22

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

- Pharm Vet Solutions
- SPCA College

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

- Argenta Manufacturing Ltd (to use PharmVet Solutions' code) (renewal, code expired)
- Bayer New Zealand Ltd (to use PharmVet Solutions' code) (renewal, code expired)
- Biocell Corporation Ltd (to use PharmVet Solutions' code) (renewal, code expired)
- Carne Technologies Ltd (to use PharmVet Solutions' code) (renewal, code expired)
- DCS Animal Studies Ltd (to use PharmVet Solutions' code) (renewal, code expired)
- Disease Research Ltd (to use AgResearch Ltd's code)
- Elanco Animal Health (to use PharmVet Solutions' code) (renewal, code expired)
- EquiBreed NZ Ltd (to use PharmVet Solutions' code) (renewal, code expired)
- Halter Ltd (to use AgResearch Ltd's code)
- Innovative Medical Solutions Ltd (to use Estendart Ltd's code)
- Levin and Horowhenua Veterinary Centre (to use Estendart Ltd's code)
- Merial New Zealand Ltd (to use PharmVet Solutions' code) (renewal, code expired)

- Otakaro Pathways Ltd (to use Lincoln University's code)
- Seacrest Farms Ltd (to use PharmVet Solutions' code) (renewal, code expired)
- Sirona Animal Health Ltd (to use PharmVet Solutions' code) (renewal, code expired)
- Wildlands Consultants Ltd (to use Landcare Research NZ Ltd's code)

Amendments to codes of ethical conduct approved by MPI

- Nil

Minor amendments to codes of ethical conduct notified to MPI

PharmVet Solutions

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

- Advanced Regenerative Therapies Ltd
- Caledonian Holdings Ltd
- ES Plastics Ltd
- Eurofins SCEC Pty Ltd
- Herdwash Ltd
- Mason Consulting
- Rich Technology Solutions Ltd
- Stemvet New Zealand Ltd
- VetPlus Solutions Ltd
- Virbac New Zealand Ltd

Linda Carsons, Senior Adviser, Ministry for Primary Industries
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Across our desks

Animal welfare science and ethics – their importance to veterinary students

Australian and New Zealand veterinary students were surveyed to reveal what animal welfare and ethics topics students considered important competencies for their first day in practice. Students prioritised triage and professional ethics over some underlying animal welfare and ethics theory and frameworks. The paper discusses the possible reasons, including students' preoccupation with accumulating knowledge and practical skills, and implications of the survey results for future teaching of animal welfare and ethics.

Freire et al (2017). *Journal of Veterinary Medical Education* **44: 208-216**

Improving animal welfare in wildlife shooting

Projectile energy is of critical importance for the capacity of physical killing methods to induce instantaneous insensibility of animals. The study assessed the performance of two projectiles of identical weight and similar design, but different kinetic energy, in nocturnal sharpshooting of wild European rabbits. The higher energy projectiles generated better animal-welfare outcomes including shorter time to death, a greater instantaneous death rate and a lower probability of wounding the animal. For both projectiles, increasing shooting distance reduced animal-welfare outcomes.

Hampton et al (2016). *Wildlife Society Bulletin* **40: 678-686**

(See also <http://researchrepository.murdoch.edu.au/idleprint/38031/>)

Observations of sows and piglets housed in farrowing pens with temporary crating or farrowing crates

The present study compared sow and piglet behaviour in two farrowing systems. Sows were 1) housed in a crate 5 days pre- until 28 days post-farrowing or 2) held in a crate from 3 days

pre- until 4 days post-farrowing, after which they were released and held loose within a larger pen until the weaning of their piglets at 28 days. During the first 1-6 days post-farrowing, sows in both systems spent the majority of their time lying and there was no difference in the amount of time sows spent standing, sitting or lying. However, sows in pens performed more nursing vocalisations, more behaviour directed towards other sows and rooted the floor more than sows in crates, and were also more active once loose, spending more time standing, rooting the floor and performing more piglet-directed behaviours (investigation, touch and vocalisation towards piglets). Sows held in farrowing pens, once loose, expressed a greater repertoire of behaviour compared to sows in crates, including enhanced sow-piglet interactions.

Chidgey et al (2016). *Applied Animal Behaviour Science* **176: 12-18**

Research challenges and conservation implications for urban cat management

The paper reviews the current knowledge of research on urban cats in New Zealand, including studies on public perceptions and attitudes towards cats and their management, ecology and environment, business and marketing, current law and governance and disease and zoonoses. The authors identify gaps in our knowledge and make suggestions for future research to better understand ecological and social impacts and to inform management and legislation, including additional social science research, citizen science-based research programs, market research and in-depth studies of cat disease and zoonoses.

Kikillus et al (2017). *Pacific Conservation Biology* **23: 15-24**

Sucking behaviour and milk intake of triplet lambs

The study investigated whether differences in sucking behaviour and milk intake persisted beyond the critical neonatal period within triplet litters of lambs. Triplets born lightest were still lighter than their siblings at 8-17 days. The lightest lambs gained significantly less abdominal girth after a 100-minute observation period than their heavier siblings. The heaviest lambs had significantly fewer sucking bouts and spent less time sucking, but had similar live weight gains, than their lighter siblings. During a competitive observation period, light-born lambs competed with the medium-born lambs for the teat not preferred by the heavy-born lambs. Heavy-born lambs are efficient feeders, medium-born lambs work harder to achieve the same milk intake and light-born lambs achieve lower milk-intakes, and management strategies should be focussed on the lightest-born triplet.

Van Welie et al (2016). *Applied Animal Behaviour Science* **180: 58-64**

Remote monitoring for animal health and welfare on farm

Due to a shift toward automation and declining numbers of experienced stock people entering the industry, there is an increased demand for remote monitoring of animal health and welfare on farms. The study validated infrared thermography to measure respiratory rate, which could be used as an indicator of stress, heat exposure and disease, and accelerometers to measure flinch, step, kick responses for assessing stress and discomfort in dairy cows. As accelerometers provided an indirect measure for the flinch, step, kick response and infrared thermography was a reliable measure of respiratory rate, both technologies could be integrated into existing systems for remote monitoring of dairy cow health and welfare.

Stewart et al (2017). *Journal of Dairy Science* **100: 3893-3901**

Bobby calf videos for transporters

Calf welfare is important. The welfare of calves is a priority, and central to good farming business. Everyone in the supply chain – farmers, transporters, saleyard operators, and processors – has a role in protecting calves.

The Bobby Calf Working Group, a joint industry-government group, has developed four training videos to help truck drivers to meet their requirements under the Animal Welfare (Calves) Regulations 2016.

These videos were developed by the Meat Industry Association (MIA), DairyNZ, and the Road Transport Forum (RTF), with support from the MPI Safeguarding our Animals, Safeguarding our Reputation programme. “The videos provide good practice advice for selecting, loading, and handling calves, and can be used by transport companies as part of their employee training programme,” MPI’s Manager Animal Welfare Kate Littin

“The working group have worked on an extensive range of improvements to calf welfare over the last few years to ensure industry were ready for the new regulations. We were pleased to work alongside MIA, Dairy NZ, and the RTF to deliver these videos also.”

To view the videos visit our website www.mpi.govt.nz/calfvideos

For more information about the Animal Welfare (Calves) Regulations 2016 visit this webpage www.mpi.govt.nz/calves



An image from the Fitness for Transport bobby calf video, showing a dairy farmer and livestock truck driver completing the Transport Declaration Docket.

Your feedback

We look forward to hearing your views on *Welfare Pulse* and welcome your comment on what you would like to see more of, less of, or something new that we have yet to cover.

Please send your feedback to us by emailing animalwelfare@mpi.govt.nz

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Welfare Pulse

Welfare Pulse is published electronically three times a year by the Ministry for Primary Industries. It is of special relevance to those with an interest in domestic and international animal welfare developments.

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