

## PRESIDENT'S PIECE

APRIL 2011

Well, it's been a very eventful past few weeks. While the recent tragic events may have been largely limited to the Christchurch central business district and Eastern suburbs, the disruption that it has caused to everyday life extends well out into the rest of the province, including a forced closure of the Lincoln campus despite escaping pretty much unscathed.

While there was (and still is) plenty of sand to be shovelled, a week off does allow some time for contemplation. In particular, on the afternoon of the earthquake I was driving on the outskirts of Christchurch, on the right of me was the city with tens (maybe hundreds) of thousands of people without power and water, and on the left there was an irrigator going about its job spraying water over lush green pasture. This, to me, provided a poignant reminder of the vital role that agriculture still plays in our country's fortunes, which simply cannot be overstated. Sure, those people on the right hand side of the road whose income relies on business within the Christchurch CBD will suffer some financial hardship in the coming months or years, but almost certainly that would be extended without a vibrant agricultural sector behind the community feeding money into the local economy.

This is not just a situation that is unique to Canterbury. Nearly all of New Zealand is at risk of natural disasters that can decimate cities in a matter of seconds. In order for our country's economy to remain resilient through such events we must continue to focus on, and value, the agricultural sector. We are all familiar with the importance that agriculture currently has in our economy in terms of earning foreign revenue, but the real strength of agriculture to help us out of situations such as those unfolding in Canterbury is the speed at which some much needed cash flow can be provided. Regardless of how the ground shakes, the cows still need to be milked and the lambs and cattle will continue to grow, financial benefits from which can be realised almost immediately. Even in the worst-case scenario, it takes a lot less time to work and sow a paddock than it does to replace the bricks and mortar of an entire city block.

Clearly, the New Zealand Society of Animal Production has a vital role in ensuring that our animal-based industries continue to be vibrant and that they not only contribute substantially to the economy now, but also in the future, no matter what Mother Nature throws at us.

Looking to the future, I am looking forward to seeing you all at this year's conference in Invercargill. Jo and her team have been busy organising what I'm sure will be an excellent meeting; just don't forget to bring your woolly hat.

Peering even further to the future, I would also like to thank Sabrina Greenwood who has volunteered to chair the organising committee for the second joint NZSAP/ASAP meeting which is to be held at Lincoln University from the 2<sup>nd</sup> - 5<sup>th</sup> July 2012. While it is still a long way off, I would like to make mention that we are following a similar format to the 2008 meeting in that papers can be published either in our proceedings or in Animal Production Science. Please note, the due date for submission of a full paper for Animal Production Science is 14<sup>th</sup> October while the NZSAP Proceedings will follow the usual timeline with a call for abstracts to be submitted by early November. Further details will be available shortly on the website: [www.anzsap.org](http://www.anzsap.org)

Andrew Greer  
NZSAP President

### VERY IMPORTANT NOTICES

1. YOUR SUBS ARE NOW **OVERDUE** – IF YOU HAVE A YELLOW SHEET INCLUDED IN THIS NEWSLETTER – PLEASE SEND THEM TO JANE KAY, EXECUTIVE SECRETARY ASAP

## NEW ZEALAND SOCIETY OF ANIMAL PRODUCTION CONFERENCE 2011

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**29<sup>th</sup> June – 1<sup>st</sup> July at Ascot Hotel, Invercargill**

The NZSAP conference is an excellent opportunity for you to share the results of your research and to debate and discuss the outcomes with your peers. So reserve **Wednesday the 29<sup>th</sup> June to 1<sup>st</sup> July 2011** in your calendar and come and enjoy the warm hospitality that Southland and the Ascot Hotel have to offer. Fill out your registration details and accommodation requirements at <http://nzsap.org.nz/conference> and make your travel plans now.

We have a great program planned. We have ten science sessions covering a diverse range of topics, a young member and golden oldie session, the invited Landcorp lecture with Stewart Ledgard giving a presentation on life cycle assessment of agricultural products from pasture to plate, and a morning contract session with 12 invited speakers giving a presentation about the interaction between animal production, welfare and the environment.

Field trips are also currently being planned to look at how local farming systems are making a difference in our industry. We will visit Southern Centre Dairy Limited to look at their current wintering system, where they house up to 1850 dairy cows over winter. The second part of the field trip is yet to be confirmed

An active social plan is also organised, with opportunities to have wine and cheese with your colleagues, to compete against your fellow peers on a velodrome, to prove how smart you are in a quiz night and to enjoy a southern themed conference dinner with old friends at the Ascot.

It should also be noted that the conference will follow a sheep and beef farmer science day which is to be held on the 28<sup>th</sup> June 2011 at the Ascot Hotel. This is a great opportunity for scientists to come a day early and talk to farmers about their latest research and how their ideas might be applied on-farm.

### **NZSAP Conference: Important dates and costs**

*Note: All fees are in NZ dollars and are inclusive of GST @15%*

Early Bird Full Registration by the 27<sup>th</sup> May 2011 (Cost \$440)

Full registration after the 27<sup>th</sup> May 2011 (Cost \$490)

Student registration (Cost \$0, excludes social events)

Day registration (Cost \$165, excludes social events)

Contract session registration (Cost \$50, excludes social events)

There will be a range of accommodation options from motel rooms near the facility to motel and hotel rooms at the venue itself. Registration for both the conference and accommodation can be found on-line at <http://nzsap.org.nz/conference>.

*Jo Kerslake*

*Conference Convener for Invercargill 2011*

### **NZSAP WEBSITE**

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Details of 2011 conference will be on the website at <http://nzsap.org.nz/con11/index.html>

Papers from last years Conference can be viewed on the website as well as information about Awards and Grants. Past Newsletters can also be retrieved. Please let Scott know if you have any news that you think is relevant to NZSAP and should be posted on this site.

## 2011 ANNUAL GENERAL MEETING

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The 71<sup>st</sup> Annual General Meeting of the New Zealand Society of Animal Production Inc. will be held at the Conference at the Ascot Hotel, Invercargill.

### Agenda

Apologies  
Minutes from 2010 Meeting  
Matters Arising  
Presidential Report  
Treasurer's Report  
Editor's Report  
Publication Manager's Report  
Election of Officers  
Next Conference  
General Business

Signed: Executive Secretary

## NOMINATIONS FOR MANAGEMENT COMMITTEE 2011-2012

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Nominations for committee members are requested by April 29<sup>th</sup>, to the Executive Secretary. The nominee, nominator and seconder must be members of the Society. The committee will be elected by postal ballot with the result announced at the Annual General Meeting, except that the Vice-President automatically becomes President, and the current President automatically becomes Immediate Past President.

The management committee consists of the following:

President	Vice-President
Immediate Past-President	Secretary
Convenor of the Conference Organising Committee	Publications Manager
Treasurer	Website Manager
Editor of Proceedings	Newsletter Manager

All offices except the President and Immediate Past-President are open for election.

Presently the committee meets three times a year, immediately before and after the Annual Conference and once in December to evaluate abstracts of papers submitted for presentation at the next conference. In addition to that it holds two or three telephone conference calls each year. To understand how the various officers contribute to the strategy and operations of the Society, speak to current and past committee members.

To nominate somebody for a position on NZSAP Management Committee, please send the following to the Executive Secretary, Jane Kay:

- Position
- Name of Nominee (Printed) and signature of Nominee
- Proposer (Print name) and Proposer's signature
- Seconder (Print name) and signature of Seconder
- Date

## WOULD YOU LIKE TO RECEIVE YOUR NEWSLETTER BY E-MAIL?

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Folding newsletters and sellotaping them closed has been identified as a leading cause of Executive Secretary injury, so we are now offering you the opportunity to receive a nice crisp PDF of our newsletter delivered to your Inbox!

If you'd prefer to get your newsletter the modern way – just email Jane Kay, Executive Secretary at [nzsap.animal@xtra.co.nz](mailto:nzsap.animal@xtra.co.nz) and she will make it so.

## MEMBERSHIP

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A warm welcome on behalf of NZSAP to our new members:

KATIE CARNIE, LIC HAMILTON	KATHERINE LOWE, AGRESEARCH GRASSLANDS
L ANDERSON, MEAT GOAT NEW ZEALAND INC	HAYLEY BAIRD, AGRESEARCH INVERMAY
ALISTAIR BLACK, LINCOLN UNIVERSITY	CHRISTINE COULDREY, AGRESEARCH HAMILTON
RODGER DOUGLAS, DAIRYNZ HAMILTON	FIONA FISHPOOL, UNIVERSITY OF NEW ENGLAND, ARMIDALE
TALIA GRALA, VIALACTIA BIOSCIENCES (NZ) LTD	SUE HATCHER, ORANGE AGRICULTURAL INSTITUTE, NSW
FIONA HELY, ABACUS BIOTECH	JUN SHENG LIN, AGRESEARCH INVERMAY
NICK LYTTLE, CHRISTCHURCH	AMY PATEN, MASSEY UNIVERSITY
KATJA ROSENVOLD, AGRESEARCH HAMILTON	FRANCISCO SALES, PALMERSTON NORTH
EDGAR RODRIGUEZ, AGRESEARCH GRASSLANDS	QUENTIN SCIASCIA, PALMERSTON NORTH
GONZALO TUNON, MASSEY UNIVERSITY	ANDREW WALL, AGRESEARCH INVERMAY

8 resignations were received from members and 19 were deleted for unpaid subscriptions, leaving a Current Membership Total of 458.

## AGMARDT YOUNG MEMBER AWARD 2010 – RYAN J HIGGS

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Congratulations to Ryan Higgs, whose paper “Effect of white clover containing either high or low concentrations of water-soluble carbohydrate on metabolic indicators of protein degradation in the rumen of dairy cows” was adjudged the best by a young member at Conference 2010.

## DEER FARMING: ON FARM PRODUCTIVITY IMPROVEMENT AND PROFITABILITY

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### ***Making the DIFFerence, The Deer Industry Focus Farms project***

Over the past 4 years, the deer industry, encouraged by the success of the Beef + Lamb NZ's long established monitor farm model, have developed 5 deer Focus Farms projects across NZ. These have become a key point source for new technology transfer, revisiting core deer production knowledge and providing an almost a politics free zone to concentrate on lifting the industry's productivity performance, which has been static and less than it should be for a numbers of years. We've been well supported with advice by Richard Wakelin and his experienced B+LNZ group and we have evolved the current programme from their monitor farm model, for which the industry is extremely grateful.

The deer industry has a very strong working funding model for research and extension via DEEResearch Ltd, a formal partnership between the deer research and other science streams from AgResearch (50%) and a 25% partnership each between the NZ Deer Farmers' Association and Deer Industry New Zealand. DEEResearch through its Board also includes representation from Otago, Lincoln and Massey Universities and the industry's processing and exporting sector.

That group, plus a productivity working group drawn across the industry, developed a combined bid to FRST in 2008, successfully establishing the current 6 year project Venison Supply Systems (VSS) contract, as the basis of research and extension around venison production. The bid was driven in part with background references to the industry's formal venison marketing strategic intent documents and the recognition of areas in productivity where improvement targets and KPI's were detailed and required. The 2011 DINZ Board and executive are now currently working through a better working and research model to link and drive greater productivity growth with the increasing venison market sophistication and penetration with high value chilled product, where provenance, food safety and product quality assurance sit alongside marketing, promotion and cuisine and chef education programmes in restaurant and increasingly retail distribution and consumption areas in Europe and the USA.

The successful VSS bid has embedded in it, as one of the key objectives, the focus farms project, now termed “*Making the DIFFerence, The Deer Industry Focus Farms project*”. Objectives from both the venison strategic intent and productivity goals have directed the programme's catch cry of “*more (fawns on the ground), heavier, earlier*” as key drivers of improved profitability and productivity.

This year a further theme, “...and better” has been added, as the deer industry has just initiated a central progeny test programme (CPT) based again on the Beef + Lamb New Zealand and Alliance Group Ltd model using the key linked red deer and wapiti sires drawn from leading high BV sires from the DEERSelect genetic evaluation programme.

In association with funding and support from Alliance Group, Landcorp and Silver Fern Farms and within the major genetics objective of the VSS programme, venison yield and ultimately venison quality traits with breeding worth (BW) values will be established in addition to the current growth, weight, conception date, temperament, fertility traits and other maternal and paternal BV indices developed through DEERSelect, which is hosted by AgResearch at Invermay. Industry Breeding Values and BW indices are calculated through a deer adapted genetic engine programme run via SIL. Exciting new work also includes developing eye muscle area measurements, a DNA bank development with associated tests for Johnes disease resistance and potential new work in parasite resistance within the wider CPT framework.

*Making the DIFFerence* has a formal commitment from the AgResearch Deer Research Group, primarily to provide staff and expertise at all field days and in planning related to topics and issues developed that are of regional interest to the deer farmers of the 5 regions across NZ.

Each focus farm is hosted by the local regional NZ Deer Farmers' Association branches who contribute the regional strength through a variety of most appropriate community group and branch network structures around the focus farm. Core funding from DINZ is directed through professional consultants (a sparse ~\$30k pa/farm) for facilitation, communications and supplementary on farm monitoring in areas of interest and is provided in addition to the industry co funding of the venison supply systems project. The various regional groups have been successful from time to time in funding specific local initiatives with the MAF Sustainable Farming Fund and core co funding from DINZ and the local DFA branch.

Further refinement and gathering momentum around the focus farm technology transfer initiative has intensified as the initial 4 projects have just closed after the first 3 years of input. 4 new farms in the same regions will commence this year. A further Southland/ Fiordland project has been successfully initiated with a combination of Landcorp Farming properties and sponsorship and two commercial ventures, co-operating to present aspects of management behind the single theme *Integration* that covers the role of sheep and cattle breeding and dry stock farming with deer breeding and finishing enterprises. This some what different approach looks to evaluate whole systems, productivity and the advantages and any potential challenges of combining these livestock enterprises within the deer fence to improve pasture management and effective utilization.

DINZ continues to be in debt and gratitude to the volunteer effort given so freely by the community groups in the DFA structures formed in support of the focus farms and their commitment to the farmers and facilitators' that run these days. We have an exceptional group of key farmers universally who have relished the role and made significant gains in both productivity and profitability in a short time. Industry average weaning percentages for example have languished in the 80-82% realm with a serious issue in first fawning yearlings where survival to sale can slump to 70%. The focus farm properties have all lifted their performance from well above average to 90% plus from mixed age hinds and high 80% for yearlings in the past three years.

Attendances continue to be strong at these days which have become a solid part of regional interest and the associated DFA branch activities, typically with 80-100 attendees per quarterly field day or associated event. Public rural media continues to support strongly and have featured all properties in depth alongside deer industry reports in Deer Industry News and The Deer Farmer. Better communication however remains a key area for future work using new media approaches (You Tube video web based messages, new website developments etc).

While each farm and region has their own emphasis, some common themes have emerged as being key parts of the “more calves, heavier and earlier” drivers of the programme. These are the use of summer and autumn brassicas and specialist pastures to add to lactation and weaner growth autumn and pre winter when young animals have immense potential to grow that has been for too long a missed opportunity, winter fodder beet and brassica crops and that management, greater awareness of growth rate EBV's and terminal sires in breeding programmes, and diagnosis and test and cull programmes around Johnes disease. In addition there has been steady interest in RFID and management application generated as the industry has accepted mostly the inevitable transition to NAIT and this technology. Veterinary involvement has been crucial as deer health and disease prevention management are the first items on the annual farming calendar to be developed and implemented. Three facilitators are also practicing veterinarians and deer farmers in their own right.

The project continues to also host the annual conference of the focus farming couples, facilitators and community group chairmen, along with the key VSS researchers and relevant DINZ executives and key DEERResearch board member for further feedback and involvement. While DINZ funds and coordinates this

event, the momentum of this conference has encouraged the farmers and facilitators to run their own programme concentrating on better planning for field days, clear messages and a greater emphasis on profitability, especially with the increasingly wider use of Farmax™ in the analysis of pasture growth and animal performance.

An emphasis on determining extent of farmer uptake and transformation into productivity improvement on their own properties is an increasing priority for the project with detailed feedback from attendees being sought and more community involvement in themes and programme planning. In turn, with greater emphasis on reducing operational costs is also a priority and demonstrating the relative and improving profitability of deer farming enterprises in the Downlands, hill and high country as competition for land use intensifies and sheep and cattle returns too show an aggressive improvement in returns and strength. The deer industry is well aware that continuing strong comparative profitability in these situations will be the motivation to keep current deer farmers in the industry, and to attract the next generations. We are very pleased to see these new faces attending and contributing to the *Making the DIFFerence* Focus farms days.

Tony Pearce  
*Producer Manager, DINZ*

## **AUSTRALIAN SOCIETY OF ANIMAL PRODUCTION YOUNG MEMBER TRAVEL AWARDS** \_\_\_\_\_

The ASAP generously donated NZSAP some of the profits from the joint conference in 2008 to enable some of our young members to attend the 2010 ASAP conference in Armidale. The following are the reports from our young members who were awarded the travel grants.

### **ASAP YOUNG MEMBER TRAVEL AWARD REPORT – KIRSTY HAMMOND** \_\_\_\_\_

Sunday the 11<sup>th</sup> of July started off with a 5:30 am start and the lugging of a 20 kg suitcase to Palmerston North airport in preparation for the anticipated cold Armidale weather in New South Wales, Australia.

The idea was you could never have too many warm clothes in preparation for Australia's highest city, 1000m above sea level - well known for having snow at random times in the year.

You could imagine my dismay when arriving in Armidale for the 28<sup>th</sup> Biennial Conference of Australian Society of Animal Production (ASAP) that the weather was sunny and warm.

However, as one of four young New Zealand scientists invited to attend the 28<sup>th</sup> Biennial Conference, the prospect of a change of scene from my PhD work meant the weather did little in putting a damper on the trip.

The theme of this year's conference was "Livestock production in a changing environment" - very much a topic of interest for me considering my PhD is based on methane emissions from ruminants fed fresh forages.

Of interest was a talk given by Professor Nigel Scollan from Aberystwyth University on 'Future research priorities for animal production in a changing world'. He discussed changes in animal science and livestock production from a global perspective, with more emphasis on livestock production being sustainable within the context of climate change and meeting consumer demands. A topic under scrutiny here in New Zealand.

There were plenty of interesting talks such as the usage of GPS tracking devices in grazing cattle; the use of Spirulina algae to increase water intake in cattle, ways of reducing cannibalism and feather pecking in free-range hens, and the training of merino sheep to visual and auditory cues, just to name a few.

For me the highlight was the group tour, given by Roger Hegarty, of the sheep methane chambers at the University of New England. In New Zealand I work with the AgResearch Grassland sheep methane chambers so this gave me the chance to compare the two facilities.

I also got to interact with leading animal production scientists and see the research they are currently working on.

The conference passed extremely fast, good weather and all, and it was not until the last day of the conference that Armidale lived up to its reputation of being cold (-6°C was the best it got to).

So much for the 20 kg of warm clothes.

Thanks to the NZSAP and ASAP Societies for providing me with the financial support to attend the ASAP conference. The ASAP Committee and University of New England were excellent hosts. Also thanks to the New Zealand contingent from AgResearch and Massey University.

*Kirsty Hammond*

## **ASAP YOUNG MEMBER TRAVEL AWARD REPORT – KRISTINA MANDOK** \_\_\_\_\_

“Livestock Production in a Changing Environment“, this year’s ASAP conference was held in July in Armidale, Australia. Having won a NZSAP travel award I was fortunate to have the opportunity to attend. The conference covered a wide range of farm animals including beef, poultry, and sheep. A diverse group of delegates from many different industries made up the audience.

I enjoyed Peter Hutton’s talk about the effect of *Eremophila glabra* on lactic acidosis. *E. glabra* had the same positive effect as common antibiotics in vitro but no effect was found in the *in vivo* study.

In a pilot study David McNeill successfully used proximity loggers to detect heat in dairy cows by comparing the logger data to heats detected by tail paint. His findings have produced such promising results that plans for further research are already made.

When Robin Dobos attempted to decrease methane output in sheep by adding nitrate to feed, it worked with lower methane emitted and in a different pattern.

A highlight was a tour to the Tullimba feedlots in Kingstown providing insight into beef production research. In studies of temperament Linda Cafe related this to productivity and stress response, and found that flightiness has negative effects on carcass weights, meat quality, and animal growth rate and also results in a higher stress response. The flightiness had no effect on feed conversion efficiency.

The differences in fat distribution and how to distinguish fat from other body tissues in ultrasound images from various cattle breeds were explained by Paul Greenwood and Matt Wolcot. This was a challenge for my untrained eye. Much more practice is needed!

The conference widened my interests and stimulated my imagination whilst adding perspective as I start my postgraduate work. Thanks to the NZSAP and ASAP Societies for the travel award.

*Kristina Mandok*

## **ASAP YOUNG MEMBER TRAVEL AWARD REPORT – PAUL EDWARDS**

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I was the recipient of a \$2000 NZSAP and ASAP Young Scientist Award providing funding to attend the 28th Biennial Conference of the Australian Society of Animal Production held at the University of New England in Armidale, New South Wales, Australia. The theme of the conference was “Livestock Production in a Changing Environment”. Plenary sessions were given on Australia’s contribution to the global food industry, the future of Australia’s coordination and funding for red meat production research and development, the challenges of achieving greater research and development output with fewer resources and the direction of animal science education in Australia.

There has been a proliferation of animal science courses in Australia and a steady decline in agricultural science graduates. Animal science graduates can fulfill the roles of agricultural science graduates if they receive a background in feedbase utilisation. However, many of these animal science graduates are not from traditional rural farming backgrounds and instead tend to be urban-based females with high tertiary entrance marks. Their initial attraction to animal science tended to stem from a love of animals (for example cats, dogs etc), though interest in animal production developed as learning progressed. So for these graduates to succeed and contribute to the industries their interest must be encouraged, for example by scholarships and mentoring programmes.

An unusual presentation looked at the effect of supplementing a cow’s diet with Yerba Mate (a type of tea) for its antioxidant properties. A positive effect on production was seen, but this was attributed to an increase in the amount of protein bypassing the rumen rather than a change in the cow’s redox status. A separate study found that adding *Spirulina* algae to cattle drinking water increased water intake, potentially diluting urine and posing the question “could this be used as a mitigation tool for nitrogen leaching?”

Another paper of interest was on urine distribution for cattle and sheep grazing on hill country pastures. Half of the heifers’ urinations occurred in only 5.6% of the paddock. In addition urine excreted in the morning is more concentrated and is most likely to occur in camping areas potentially increasing N leaching. Farmers could target N mitigation products specifically at these high risk zones.

Finally, the use of proximity loggers for heat detection was explored. The technology used a proximity sensor to measure the time a cow spends in close proximity to another, the theory being that a cow on heat will spend significantly more time around other cows. The loggers are made by Sirtrack Ltd., Havelock North and currently cost around \$600 per unit. Unless both the cost per unit and error rates are reduced markedly such technologies are not likely to be beneficial for New Zealand dairy farmers.

*Paul Edwards  
Science Intern  
DairyNZ*

## **ASAP YOUNG MEMBER TRAVEL AWARD REPORT – ANNA SMYTH**

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“At the ASAP conference in Armidale, Australia the presentations on beef cattle were of most interest to me because of my cattle breeding background and my PhD research topic”, said Anna Smyth of Lincoln University, who was supported by the ASAP student travel award to attend the conference. “I did however wonder about the practicality of some of the studies”, she said.

“They are either not in the best interest of the farmer in the long term, or are telling us exactly what any good farmer has known for years. Additionally some research findings are being applied back to breeding or farming programs with too much emphasis placed on the science without considering that it may only play a very small part in the overall breeding or farming program.”

“When there seems to be a limited amount of funding available for research projects in agriculture and animal science, it begs the question of whether this money being used wisely?”

“Research provides the industry with opportunities to increase production by extending our knowledge and giving us new technologies, but I am concerned about how the new knowledge and technologies are being taken on board and used back on the farm.”

“ While visiting a feedlot at Tullimba we were shown a new program about to be released where you can enter certain parameters such as the age of the animal, its weight, fat cover, type of nutrition, and this program predicts the weight and fat covers your animal should have at slaughter. These technologies are new and exciting but I wonder whether they being used appropriately and will the next generation of farmers be real stockmen or someone who thinks they can breed and finish good cattle by looking at numbers on a computer screen?”, said Anna.

"It is important that farmers stay 'practical' as animal husbandry skills and general stock sense also affect animal performance".

"Farmers are always looking for a way to increase production and giving themselves a leading edge."

"We have seen how beef breeders have used another breeding technology that is based in Australia called Breedplan, which gives us Estimated Breeding values or EBVs", said Anna. This is a system which predicts the animal's breeding value for different traits. "Some breeders have placed too much emphasis on this system and have forgotten about the basics of cattle breeding. I believe the structure and constitution of beef cattle here and in Australia in some cases have deteriorated even though researchers can produce graphs showing extreme improvements in genetic gain over the years", claimed Anna.

In the dairy industry, genetic gain can also be shown when taking into consideration the 'Breeding Worth' value. "Recently some of the parameters that went into the 'Breeding Worth' calculation had to be revamped as it did not take into consideration fertility and longevity. I would have thought these were really important traits and should have been considered from the beginning", said Anna.

"We cannot measure many of the traits that are still of importance to cattle productivity, so if only the EBV's are focussed on, other critically important traits may get neglected."

"I really enjoyed the presentations that had more practical 'back to basics' findings. I enjoyed the study which looked at 'Selecting for fertility in Brahman heifers improves pregnancy rates in yearling heifers'. By culling all yearlings heifers that did not get in calf or any other animal that didn't rear a calf improved the in calf rate of yearling heifers in later years. This is such a practical and basic way of increasing production but are we reinventing the wheel? asked Anna.

"This sort of practise has been carried out by good farmers for many years. Fertility is a heritable trait and responds well to selection- this is not rocket science."

"A presentation I struggled to find benefit to farmers in extending the lactation in dairy cows", said Anna. "It claimed to have advantages such as carrying over 'good' empty cows, having less bobby calves being killed, having fewer inductions and fewer replacement heifers being required". "I believe extending lactation is a way of putting a 'sticking plaster' over a bigger problem."

"Increased use of extended lactation might over time decrease fertility in dairy cows as a result of keeping and breeding less fertile cows. The dairy industry needs to focus on improving fertility of their cows and reducing the requirement of replacement heifers and lessening the use of induction."

"There appears to be a limited amount of funding available for research in agriculture and animal science so it would be good to see an involvement of well rounded knowledgeable farmers who work in the industry as they would be able to quickly see how and if particular studies would apply back the farm at a practical level. It would be sad to see precious money funding projects that are never going to make an impact in the farming industry."

"The misuse of funding is due to the disconnection between the farmer/breeder and the scientist. I believe the disconnection may have been driven by the increase in bureaucracy around the collection and distribution of research funding."

I would like to thank the NZSAP for the travel scholarship to the ASAP conference in Armidale. It was an interesting and enjoyable experience.

## **15<sup>TH</sup> AAAP ANIMAL SCIENCE CONGRESS**

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The Asian Australasian Association of Animal Production Societies council approved a proposal to hold 15th AAAP AS Congress in Bangkok, Thailand on Nov. 26-30, 2012. Details of the 15th AAAPAS Congress can be found at <http://www.aap2012.ku.ac.th>

## **NZSAP ANIMAL SCIENCE AWARD REPORT – KIRSTY HAMMOND**

My attendance at the 4<sup>th</sup> International Conference on Greenhouse Gases and Animal Agriculture (GGAA) 2010 began with a 24 hour journey. It started in windy, wet Palmerston North and ended in Banff, home to some of the most spectacular rocky mountain scenery of Canada.

My first morning I woke up in the Rocky Mountains, I had the pleasant view of a deer outside my window, oblivious to everything and eating the hotel's potted flowers. This made me realise how fortunate I was to have received an Animal Science Award from NZSAP to attend a conference in such an amazing place.

With over 400 delegates from 38 different countries, the attendance of the GGAA conference could not have provided a better opportunity for a PhD student such as me. With my PhD topic of enteric methane emissions from ruminants, the potential of meeting experts in a similar field was guaranteed.

The scope of the conference had a wide range, with the overall theme relating to greenhouse gases. Topics included microbes in the ruminant animal, the animal's diet, the animal itself, animal manure, how gases are measured, and how they can be modelled.

I found it interesting that it may take up to 50 days or more for methane producing microbes (Archaea) in the ruminants stomach (rumen) to get use to a new diet. Particularly as many of our animal trials do not allow this much time between different diets.

I guess it makes sense - imagine eating steak everyday and then suddenly eating only salad - there are bound to be repercussions for some time with such a change in diet.

There was also some interesting work on fungal secondary metabolites which reduced methane production both *in vitro* and *in vivo*. Although more research is needed, this has an exciting future.

It was also shown that whatever increases animal productivity, will also reduce emissions intensity – greenhouse gases/quantity of food. Ruminants are valuable and that we should not be allowing GHG emissions to overshadow their contribution to food supply.

After some intense days listening to various talks, interacting with many scientists, all passionate about their field of work, and viewing posters, it was a nice change to get out and make the most of the rocky mountain scenery.

The conference arranged to take all delegates to view the Athabasca Glacier which is fed by the Columbia Ice Field. This glacier is retreating around 10m per year due to climate change. There is still 350 square km of ice field left though! They say the water on the glacier is of the purest form and promotes vitality. The heart sure was beating fast after nearly falling in after trying to break through the ice to try it!

The GGAA conference ran from the 3<sup>rd</sup> to the 8<sup>th</sup> October. By the final day many topics had been introduced, ideas discussed, faces finally put to names and business cards exchanged. What was left was the mulling over of ideas, conversations and the preparation to take home to colleagues what had been learnt.

Thanks to the NZSAP for providing me with the financial support to attend the GGAA 2010 conference held in Banff, Canada. The GGAA organising committee did a fantastic job. Also thanks to the New Zealand contingent who were good company and support.

*Kirsty Hammond*

## **NZSAP ANIMAL SCIENCE AWARD REPORT – KARIN SCHÜTZ** \_\_\_\_\_

I received funding to attend the 44th Congress of the International Society for Applied Ethology (ISAE) that was organised by the Swedish University of Agricultural Sciences (SLU). Research in applied ethology has a long tradition at SLU and this was the third time the university organised the ISAE congress.

The conference was organised around the main theme of coping in large groups and included not only farm animals but also laboratory, companion, sport and other categories of animals. The Wood-Gush Memorial Lecture was given by Charlotte Hemelrijk, professor at the University of Groningen in the Netherlands who gave a fascinating presentation regarding self-organization of social systems.

There were six key note lectures and fourteen sessions, representing not only the overall theme of the meeting, but the diversity of interests within ISAE as a whole. Furthermore, there were five workshops and numerous posters on display during the whole conference. I found that the scientific program and organisation of the congress were of very high standards. I was invited to join the scientific committee judging student posters, and we had a tough task deciding on a winning poster, since the poster standard was very high.

Personal highlights from the congress were presentations with topics such as; are hens happy? And do hens have friends? (They don't, but in another talk we learnt that Pekin ducks do), and that it is perfectly normal to show abnormal behaviours, such as hair twisting and pen drumming (it just means you are a scientist).

Several leading scientists in the welfare area attended the conference and there were many interesting discussions following the presentations. The social program offered tours to historical sites in Uppsala and Stockholm and the conference dinner was held at the castle of Uppsala, which made everyone feel like princes and princesses.

After the conference I visited research groups at SLU in Uppsala and Linköping University. We visited on-going experiments and participated in a seminar regarding positive emotions and cognition. The visits have led to collaborations between research groups in Sweden, USA and New Zealand. I also gave a presentation about collaborative heat stress work between AgResearch and UC Davis in California.

I had a fantastic trip home to Sweden and am very satisfied with the scientific exchange. I think that the travel can lead to very fruitful collaborations in future and am thanking AgResearch and NZSAP for the financial support.

*Karin Schütz*

## **NZSAP RUMINANT REPRODUCTION SYMPOSIUM TRAVEL AWARD – CHRIS BURKE \_\_\_\_\_**

Early last September the 8<sup>th</sup> International Ruminant Reproduction Symposium (RRS) was held in Anchorage, Alaska. It is hard to believe that four years had past since the 7<sup>th</sup> RRS was hosted by New Zealand at Te Papa Museum in Wellington, with NZSAP being a major sponsor and from which this travel award is financially based on.

The Anchorage conference was attended more than 200 delegates from throughout the world, and maintained the high standard of invited speakers covering both female and male reproductive biology in a variety of ruminant species. As is typical, the invited talks ranged from the basic to applied science levels.

The talk that I was asked to provide was well-received. The title was, "The development of reproductive management practices in New Zealand: what will the future hold in a consumer-driven, environmentally conscious, export-driven marketplace?" The value was to raise awareness that the reproductive physiologist should also be thinking about market acceptability when developing hormonal interventions to improve fertility in livestock.

This symposium is held every four years and is synonymous with the 'Olympics in reproductive biology. The last symposium (7<sup>th</sup>) was hosted here in New Zealand.

**The next RRS will be hosted by Japan in late-Aug.-early Sept. 2014.**

Financial support for my travel provided by NZSAP through the RRS Travel Award was very much appreciated.

*Chris Burke  
Scientist  
DairyNZ*

*(In addition to his report, Chris Burke also provided this interesting timeline of events in Alaskan history. For some reason he overlooked Sarah Palin, but I thought readers would be interested in it nonetheless – Aaron)*

#### **Key events in the history of Alaska:**

- 1741 - Discovered by Russians
- 1776 - Captain James Cook searched Alaska for Northwest Passage
- 1867 - Purchased by USA for \$7.2 million ('Seward's folly')
- 1898 - Gold rush doubled Alaska's population to 63,000
- 1903 - Alaskan-Canadian border settled
- 1942 - Japan attacks and occupies part of the Aleutian Islands, Alaska
- 1959 - Entered union of USA as the 49<sup>th</sup> state (as did Hawaii, 50<sup>th</sup> state)
- 1964 - Earthquake (9.2 on Richter Scale) with tsunami caused devastation
- 1968 - Discovery of a huge oil and gas reserve near Prudhoe Bay
- 1977 - Completion of the 800 mile trans-Alaskan pipeline for \$7.7 billion
- 1989 - *Exxon-Valdez* oil tanker ran aground in Prince William Sound
- 2005 - Population estimated at 663,100 (275,000 in Anchorage)
- **2010 - Hosted the 8<sup>th</sup> Reproduction in Domestic Ruminants Symposium**

#### **NZSAP ANIMAL SCIENCE AWARD REPORT – MAIRI STEWART**

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The funding I received from NZSAP enabled me to attend and present a paper at the International Society for Equitation Science (ISES) and the Annual International Congress of the International Society for Applied Ethology (ISAE), which were both held in August 2010 in Uppsala, Sweden.

ISES is a relatively new society promoting the rapidly evolving area of equine science and I presented and paper on some work we have undertaken recently validating some of our research tools for assessment of animal welfare using a horse model.

The ISAE conference is the main annual conference relevant to our welfare research, covering a variety of applied ethology topics. This year's main theme was coping in large groups, which is particularly relevant to some of our current dairy research and developing on-farm assessment systems at group level. The high demand for research investigating objective measures of stress and welfare is an important focus and ongoing for our animal based agricultural systems in New Zealand with increasing pressure for high welfare standards from consumers and overseas markets and this travel provided a valuable opportunity to network with key European scientists in this area and update on the international scene.

The travel also enabled me to strengthen existing collaborations, exchange ideas and results with international scientists and discuss potential collaborations between EU and NZ. I visited two other science groups at the Swedish University of Agricultural Sciences and at the Scottish Agricultural College, where I met with several scientists to discuss current research programmes in both groups and gave a presentation. The meetings have resulted in a collaborative project between our group at AgResearch and the Swedish University of Agricultural Sciences.

When you are away at international conferences such as these you realise how far away and small NZ is, especially regarding animal welfare research, and it just reinforces the importance for us to be represented internationally, increase our international profile and stay up to date with the rest of the big wide world, therefore I am very grateful to NZSAP for providing these opportunities.

*Mairi Stewart  
Animal Behaviour and Welfare Group  
AgResearch*

## **NZSAP ANIMAL SCIENCE AWARD REPORT – BIRMINGHAM**

I received a NZSAP Travel award to assist with my travel to Europe to attend two conferences and visit two Research Institutes in France. I attended the *International Symposium on Ruminant Physiology in Clermont-Ferrand, France*, September 06-09 where I presented a poster entitled “*The effects of condensed tannins in lotus corniculatus on valine kinetics in the mammary gland of the ewe*”. The conference had some very insightful plenary presentations. I especially enjoyed the closing presentation by Dr Bocquier who discussed the role of ruminant production, both in industrialised and developing countries, in face of environmental concerns such as green house gases. Whilst in France I visited the “Equipe Metabolisme Lipidique et Energetique”(Lipid and Energy Metabolism Team) at INRA in Clermont-Ferrand. During my visit to Drs Béatrice Morio Liondore and Cecile Gladines’ laboratory we discussed the next phase of our collaboration around lipids and atherosclerosis.

The second conference I attended was the NuGO Conference, 31<sup>st</sup> August-01 September in Montecatini, Italy. NuGO is the European equivalent of the Nutrigenomics NZ, of which my FRST Postdoctoral project is a part of. I presented a poster entitled “*Epigenetic effects of post-natal supplementation of selenium and folate*”. This conference was a fantastic opportunity to hear about the advances in nutrigenomics that are occurring internationally. Of particular interest were the developments in nutritional epigenetics, namely the research by Dr McKay who is investigating selenium and folate and their impacts on colon cancer. I had some insightful discussion with these scientists and look forward to their method developments around epigenetic events (e.g. miRNAs) that we are developing at AgResearch.

Whilst in Europe I met with Ms Marthe Jewell from Vitagora (<http://www.vitagora.com/en>) based in Dijon. This meeting was very interesting as Vitagora works at the “interface” between commercial companies and research institutes in the area of functional foods. I also met with Prof Latruffe (University de Bourgogne), who works in lipid metabolism and cancer.

Additionally I visited Drs Penny Morris and Amanda Hawthorne at the Waltham Centre of Pet Nutrition, to discuss publishing further data from their archives, specifically in the area of energy requirements in dogs. This will complement the research that I have published in the British Journal of Nutrition in cat energy requirements.

I thank the NZSAP for providing me the financial assistance to attend both the conferences as well as meeting with colleagues in my research area.

## **NZSAP ANIMAL SCIENCE AWARD REPORT – GERMAN MOLANO**

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The NZSAP travel award enabled me to attend the 4<sup>th</sup> international greenhouse gas and animal agriculture conference held in Banff, Canada in October 2010. This conference brought together over 400 scientists engaging in a wide variety of greenhouse gas research, so I was given a great opportunity to listen to well known scientists in the area of ruminant nutrition and physiology, plus others working in simulation modelling, rumen microbiology, nitrous oxides emissions and soil carbon balances.

The large number of participants made the conference a great experience with an overwhelming amount of information coming from all sorts of perspectives, where science is done under different productive systems, economic constraints and environmental regulations. From a scientific perspective there was an agreement among scientists involved in livestock emissions; reduction of the environmental impact of our livestock productive systems while maintaining productivity is the major challenge for the scientific community in the future.

It was also rewarding to see that New Zealand is in the forefront of the research area of methane measurements and mitigation, and that we (AgResearch) are seen as a research centre with very high standards, highly innovative and our commitment is pushing forward the global research in our field.

A few of us visited Lethbridge Research Centre after the conference. Lethbridge is located in Alberta Canada where the meat industry pulls resources from all over the country to feed more than 1 million steers in intensive feedlots. For this reason the research centre main focus is around beef production and feedlot finishing, and is addressing the impact of intensive systems on the environment, as well as animal health, and product quality. Overall it was a great experience to visit colleagues with similar interest but with methodologies slightly different of what we currently practice.

Canada was also a great experience and I thoroughly enjoy the conference in such a beautiful place like Banff. I am grateful for the support received from NZSAP.

*German Molano*

## **NZSAP ANIMAL SCIENCE AWARD REPORT – CHRIS MORRIS**

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In July and August 2010, Dr Chris Morris visited three UK research stations specialising on methane emission studies with dairy cattle. He is a scientist at AgResearch's Ruakura Research Centre, and was awarded 'Animal Science Award' Travel funds from the NZ Society of Animal Production both to compare notes with other research groups on methane emission measurements in dairy cattle, and to attend a Conference in Edinburgh.

Two of his visits were to research stations which had the specialist equipment to measure methane emissions accurately from individual dairy cows, Hillsborough (Belfast), and Reading University. He found that 900 cows had been measured at Hillsborough and 500 at Reading over recent years, and the research groups had the detailed data to relate methane output to varying levels of milk yields, body size, forage intake, supplements intake, stage of lactation, milking vs dry, and age of cow. Interestingly their research didn't have Breeding Value data for these cows, which is a particular interest for Morris' methane work in New Zealand.

At the research station in Dumfries, he discussed with staff the potential to use an industrial laser machine to measure methane emissions from individual dairy cows. Two staff were spending a couple of years evaluating its potential in animal agriculture, and comparing relative accuracies of the laser on cow-methane emissions with the 'gold standard', the respiratory chambers in Hillsborough. There is a major trade-off between the accuracy of the respiratory chambers, which have associated high costs and take days for individual measurements per cow, compared with much cheaper, faster but less accurate measurements from the laser.

He concluded that the machine might have potential for some specialist uses in New Zealand, namely to measure individuals in a group, such as sire-progeny groups of dairy cows or lambs, in order to compare the sires themselves. This type of work will be needed before sire-selection decisions are made on bulls or rams for breeding purposes, if methane emission is heritable and is to be included in index selection.

Dr Morris also attended the 'International Society of Animal Genetics' Conference in Edinburgh, where he and colleagues had a poster-paper to present on cattle genes for yellow fat in milk and meat. The Conference theme was about using the knowledge from the new DNA sequences of cattle, sheep and other species. These sequences are invaluable for finding individual genes and groups of genes affecting performance traits.

## **AWARDS APPLICATIONS**

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### **Animal Science Award and AgResearch Animal Genomics Award applications**

- **31<sup>st</sup> January – for travel after 1<sup>st</sup> April of the year of application**
- **31<sup>st</sup> July – for travel after 1<sup>st</sup> October of the year of application**

**The Animal Science Award** is to promote and advance Animal Science and Production. Specifically it encourages early career development and supports contact with AAAP activities. Applicants must normally have been a member of NZSAP for at least one year prior to application and be a current financial member. Applications are to be sent to the Executive Secretary by 31<sup>st</sup> July for consideration by the management committee in August/September.

The objectives of the **AgResearch Animal Genomics Award** are to facilitate research in the wider field of animal genomics including gene discovery, gene function (physiology) and gene inheritance (animal breeding) studies. In particular, the Award is intended to support conference travel and/or the acquisition of new technical skills by technicians and research associates.

Application forms are available from the Executive Secretary, or the website [www.nzsap.org.nz/awards/index.html](http://www.nzsap.org.nz/awards/index.html)

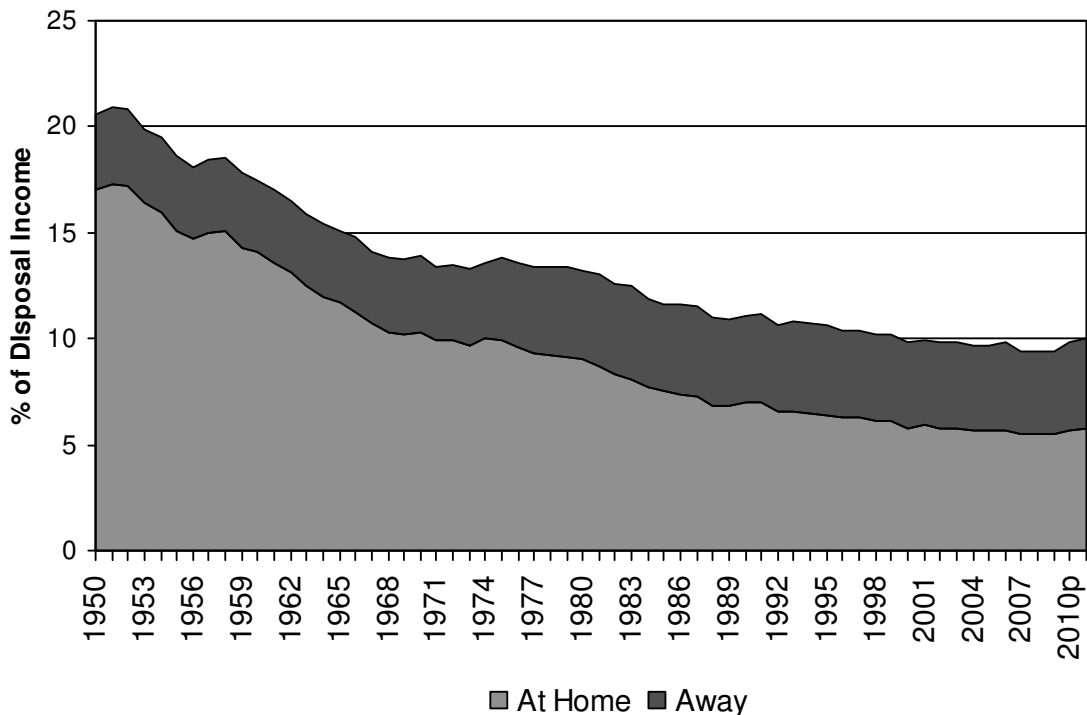
**INTERESTING GRAPH OF THE MONTH ...**

... or, *The Dummies Guide to Editing a Newsletter*.

Last newsletter I had an illustration showing the disparity between cashflows from sheep and beef farming and the value of sheep and beef farms, which has arisen over the past decade.

Because that seemed to be well received, and because the deadline for printing this letter is fast approaching and I need another half page or so of text, I thought I'd do something similar:

**US % of Disposable Income Spent on Food at Home and Away**



Source: USDA, ERS Briefing Rooms, Table 7

Over the last 60 years, modern science-based agriculture has been tremendously successful at feeding a growing world very well, better and better but at less and less cost to consumers. How long can this continue?

As importantly, this reveals the intangible benefit of agriculture to our economy. NZSAP members are hopefully well aware of the direct benefits of pastoral agriculture to New Zealand – somewhere approaching \$20 Billion each year. Moves are afoot to remind our leaders and our people of this too.

But what is usually overlooked is the *indirect* benefit. By securing food supply, and doing so in ever cheaper ways so that less and less of disposable income has to be committed to food, all of us have freed up an enormous amount of capital for consumption in other areas and for investment. Every dollar earned by farming is responsible for a significant amount more that can be spent elsewhere.

And that, my friends, is why we are seeing so much grateful media coverage lately, thanking the farmers of New Zealand and those of us who work with them, for freeing people from hunger, for taking so little of their income, and for setting them free to spend their hard earned dosh on all sorts of other wonderful things.

/snark

Aaron Meikle  
Newsletter Editor

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An electronic version of this newsletter and other information on the Society is available at:  
<http://nzsap.org.nz>

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