

At the time of writing this Presidents piece the 2015 Rugby World Cup is in full swing, and by the time some of you read this, a large proportion of New Zealanders will either be singing the praises of Ritchie and his men or dissecting where we went wrong and calling for heads to roll. Either way for all of us involved in New Zealand's Agricultural industry we must continue, as our men in black do, to strive to improve our knowledge and understanding at both a fundamental and applied level.

By way of introduction for those who do not know me I was brought up on a family sheep farm in Pukekawa, South Auckland. Arthur Allan Thomas and the Crewe murders put it on the map for you. Prior to my employment at Lincoln I worked on sheep, cattle and thoroughbred horse properties. I am currently a Lecturer in Animal Science at Lincoln University where I have been employed since 1987, initially as an animal breeding technician, but more recently as a lecturer to undergraduate students in livestock production systems, including sheep production and beef & deer production. My research interests are in the areas of Animal Breeding and Genetics particularly animal reproduction body growth and composition, Application of advanced animal breeding techniques, Use of RFID to improve individual animal productivity and efficiency, Evaluation of cultivar-novel endophyte combinations for live weight gain.

The NZSAP conference held in late June early July at Dunedin was a huge success, with many positive comments being received. Well done to the organising committee who put it all together and were led by **Dr John McEwan** from AgResearch Invermay. The Dunedin Art Gallery is a unique venue for corporate events, conferences and seminars and some excellent paper presentations by both young and old were delivered. The "Living Legend" presentation "The contribution of Invermay Agricultural Centre" was chaired by **Grant Shackell** and celebrated more than 65 years of scientific excellence. I am sure this insightful presentation brought back some forgotten memories. Likewise, there was an excellent presentation from **Lee Leachman** on "*How do you build a profitable beef cowherd*" delivered as an Invited lecture.

The 2015 conference was also the 75th Jubilee conference and an invited address "NZSAP – The Past 25 Years" was delivered at the annual dinner by **Dr Alastair Nicol**, this address was not only humorous and informative but also posed some questions as to the direction the Society has taken and challenged the current and future membership as to what we wish to achieve as a Society in the next 25 years.

We were also fortunate to able present **Gordon Greer** the Sir Arthur Ward Award to recognise his outstanding contribution in scientific research to aspects of animal production in New Zealand. In response to receiving the award Gordon emphasised that he was proud to have been part of a research effort which added a great deal more value to sheep meat, helping to develop a product which is leaner and more tender. The biggest attraction in working at Invermay had been the people, including many high-powered and passionate scientists. One of the first scientists he worked with was Ken Drew, and he has also had a long involvement with senior scientist Dr John McEwan. Gordon also loved working with farmers, many of them keen to learn about new ideas, but also offering plenty of feedback of their own.

The annual dinner also saw the presentation of the McMeekan Award - the country's highest honour for a production animal scientist to **Professor Velmurugu (Ravi) Ravindran**. Professor Ravindran, from the Institute of Veterinary, Animal and Biomedical Sciences, Massey University, specialises in poultry nutrition, with emphasis on nutrient metabolism, feed enzymes, feed evaluation, amino acid availability, gut flora management and early nutrition in poultry. In nominating Professor Ravindran, Senior lecturer Dr Nicola Schreurs, recognised that "The progressiveness of the poultry industry is highly attributable to the work that Ravi has done." He is also widely acknowledged as a researcher who laid the

foundations for much of the current understanding of feed enzyme technology.
Congratulations Ravi on receiving this prestigious award

At the 2014 conference, a life membership was awarded to **Professor Andrew Sykes** for his contribution to the society. Unfortunately, Andrew was unable to attend the 2014 conference. The formal presentation and reading of the Honorary Life Membership citation was delivered by Dr Andy Greer. The citation forms part of the 2015 proceedings.

A highlight at the 2015 conference was the young members section. The young members section is based on assessment of all aspects from submission of the abstract, timely communication and responses to editor requests to the final written paper published in the Proceedings and the conference presentation. Six young members competed in the final stage of the competition, with **Jasper Munro** emerging the winner for his paper and presentation on *Remote sensing of heart rate and rumen temperature in feedlot beef cattle: associations with feeding and activity patterns*. Congratulations Jasper on an excellent presentation.

Our editor **Sam Peterson**, once again, did a fantastic job in getting the 2015 Proceedings together on time. Having the proceedings available at the time of the conference is extremely valuable, however this is never an easy task with delays at various stages of the production process, Sam the Society sincerely thanks you for your efforts.

On behalf of the society I also wish to sincerely thank **Dr David Scobie** our nominee on the National Animal Welfare Advisory Committee (NAWAC). Scobie has been our representative on this committee for 6 years (2 three year terms). This is the maximum allowable term of the NZSAP nominee on NAWAC and as of 31st October 2015 Scobie will relinquish this position. Scobie has represented our society with professionalism and integrity and we thank you for your efforts. I have pleasure in informing you that **Dr Karin Schutz** has accepted the nomination from the management committee to be the NZSAP representative on NAWAC.

Of note, is that planning is already well advanced for the joint ASAP / NZSAP 2016 conference. The dates are locked in and the venue has been booked. The 2016 joint conference will be held in Adelaide Australia from Monday 4th July to Thursday 7th July 2016. **Philip Hynd** is the chairman of the conference organising committee, with myself as the NZSAP representative. Our editor Sam Peterson is also a member of the editorial sub committee. The theme is "Animal Welfare: Meeting Consumer Demands and Increasing Productivity" Please regularly check the NZSAP website <http://www.nzsap.org/content/conference> and the 2016 Conference website for additional information and updates. <http://www.asap.asn.au/conference>

The new NZSAP committee has held one meeting since the 2015 conference. There are a few changes: Nicola Schreurs has moved into the Vice President role, Kathryn McRae has taken over the secretarial role, and Rene Corner-Thomas the role of publications manager The committee has also appointed two 'Farmer Representative' positions, John Booker from Canterbury returns to one of these roles, with Mark Illston from Taihape returning to the other farmer representative role. I am grateful that John and Mark have agreed to continue in these roles as we need to ensure we have relevance to the industry, these farmer representatives keep us grounded.

In closing I wish to again remind members that NZSAP has a number of awards, the McMeekan Memorial Award, the Sir Arthur Ward Award, and travel awards. There are many worthy candidates who should be nominated or submit travel award applications. Please follow the guidelines on our webpage and make nominations or applications to the management committee. More details regarding nomination and application deadlines later in this newsletter.

Chris Logan
NZSAP President

VERY IMPORTANT NOTICES
CALL FOR ABSTRACTS FOR THE 2016 ASAP/NZSAP JOINT CONFERENCE
4 DECEMBER 2015

ASAP/NZSAP JOINT CONFERENCE 2016

The 2016 joint ASAP/NZSAP conference will be held in **Adelaide** from **Monday 4 July to Thursday 7 July** with the theme: “**Animal Welfare: Meeting Consumer Demands and Increasing Productivity**”

To submit a paper to the NZSAP proceedings an abstract must first be submitted no later than **Friday 4th December 2015**. Further information on key dates and contacts for abstract submission are available via the NZSAP website <http://www.nzsap.org/abstracts2016>

To submit a paper to the Australian Society of Animal Production (ASAP) please follow their website for information on key dates and submission procedures
<http://www.asap.asn.au/conference/>

UPCOMING EVENTS

Hill Country Symposium a joint special symposium to be held in Rotorua by the New Zealand Grassland Association (NZGA), New Zealand Society of Animal Production (NZSAP) and New Zealand Grassland Trust (NZGT) from **Tuesday 12th to Wednesday 13th of April 2016**. The theme for this symposium will be “Setting up a Profitable and Resilient Future for NZ Hill Country Farming”.

For further information please go to the following link www.nzsap.org/blog/hill-country-symposium-2016

NZSAP PROCEEDINGS FREE ONLINE

The proceedings of the NZSAP is open access and can be accessed using the following link www.nzsap.org/proceedings

NOMINATIONS FOR AWARDS 2015-2016

The Management Committee is seeking recommendations for the **McMeekan Memorial Award** and the **Sir Arthur Ward Award** as well as conferment of **Honorary Life Membership**. The Committee shall consider recommendations from members and formal nominations will be read at the 2016 Annual General Meeting. **Honorary Life Members** shall be persons who have rendered significant service to the cause of animal production.

The **McMeekan Memorial Award** recognises an outstanding individual contribution made to New Zealand animal production and/or the Society, during the previous five years.

Nominations must be signed by two financial members of the Society and must contain documented evidence of the way or ways in which the nominee's efforts have made an outstanding contribution to New Zealand animal production and/or the Society during the five years before the nomination. A potential recipient need not be a current member of the Society. The Award is in honour of Dr C P McMeekan a foundation member, past president, life member and distinguished leader in animal production, research and administration in New Zealand and the world.

The **Sir Arthur Ward Award** recognises the successful application of scientific research or farmer experimentation through a series of trials or effective extension when applied to an aspect of animal production in New Zealand. The nominee may be an individual, a company or an organisation, and need not be a member of the Society. Nominations must be signed by two financial members of the Society and must contain documented evidence of how the nominee's efforts have made a substantial contribution towards the adoption of a practice(s) that has facilitated more efficient animal production in terms of output per animal, per labour unit or per farm. The phrase "adoption of a practice" is to be broadly interpreted and may relate to the development of a technique, a piece of equipment, or a husbandry practice; the effective encouragement of sound principles of animal production; or the development of a new aspect of animal production.

TO NOMINATE SOMEBODY FOR AN AWARD, PLEASE SEND THE FOLLOWING TO THE EXECUTIVE SECRETARY, KATE CROOKSTON: P.O Box 955, Cambridge 3450, NEW ZEALAND email: nzsap.inc@gmail.com

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

TRAVEL AWARD REPORTS

Travel Reports for the Animal Science Award

Dr Dawn Dalley, DairyNZ, Lincoln

In April 2014 I was fortunate to travel to Europe and the UK and was assisted in this travel by receiving an Animal Science Award Travel grant which I am extremely grateful for. The first stop was Berlin and the International Farming Systems Association (IFSA) conference where I presented papers from my NZ research at 3 workshops. Berlin is a wonderful city and has definitely changed since I was there 20 years ago!! The conference was structured in a different way to many NZ conferences in that it took a workshop approach and there were up to 10 concurrent sessions at any one time. With a significant proportion of the delegates being from a social science background it had quite a different feel to biological research conferences. In addition the workshop facilitators had full control over how the workshop was conducted and the papers presented. While this worked well in some areas, a clash in the conference programme meant 2 of my papers were scheduled to be presented

in different workshops at the same time which meant I missed the discussion of one session which was disappointing.

Following the conference I travelled to the Netherlands with a group of 10 scientists from a Primary Innovation project team in New Zealand. At Wageningen I met with researchers from the Livestock Research group where I was able to discuss research they were conducting into pasture based dairying and also view and discuss research into loose housed system. I was very impressed with one of the commercial loose housed systems I visited. The cows were in great condition, clean and the barn looked amazing (see below). Interestingly there was no drainage under the bedding material, but instead they blew air through from below at intervals throughout the day and the bedding area was cultivated twice a day. It was interesting to hear the response of the Dutch and Irish researchers when I told them that dairy farmers in NZ were putting cows indoors. Much of the research in the Netherlands and Ireland is looking at options to get cows outdoors and grazing more.



The final leg of my journey was in the UK and Ireland visiting commercial dairy farms and Moorepark Research, viewing and discussing issues with barns and other off paddock facilities. I viewed a full range of facilities and came away thinking that NZ dairyfarmers are not doing too badly with their kiwi ingenuity in barn design and in integrating barns and wintering pads into their systems. Many systems in the UK are very outdated and in need of replacement (see above). A challenge we share with Ireland is developing an affordable off paddock facility that meets the animal welfare requirements without adding significant farm working costs and depreciation to the farm budget.

Dr Sally-Anne Turner, DairyNZ, Hamilton

I would like to thank the NZSAP for the Animal Science Award which assisted with my travel to the recent National Mastitis Council (NMC) Conference in Memphis, Tennessee, USA (1-3 Feb 2015). In addition, I was also able to attend the Mastitis Research Workers (MRW) Conference on 4th Feb, also in Memphis, and travel to the University of Tennessee (Knoxville) to meet with other mastitis researchers there.

At the NMC meeting I was selected to present my poster as an oral presentation in the Research and Developments Summaries Session (as well as presenting the poster in the 'normal manner' in the Poster Session). The R&D summaries session is run as a concurrent session, however is well attended. I was 1 of 10 (out of the approximately 60 posters) asked to present their work in this session. My presentation was a comparison of the prevalence of mastitis in heifers in the Waikato, compared with 20 years ago. This comparison enabled us to explore whether recent focuses by the dairy industry on reducing somatic cell counts (introduction of financial penalties) and extension activities (such as the SmartSAMM programme) have resulted in changes in milk quality. My presentation was well received, with some discussion around the use of internal teat sealants in heifers – something which is relatively rare in the US.

I was also asked to present NZ milk quality data at the NMC Milk Quality Committee meeting. This is a committee who meet every year at the NMC meeting and discuss milk quality around the world and compare indicators between countries. This is the 2nd time I have presented data on behalf of the NZ dairy industry.

Following the NMC meeting I was able to attend the first day of the MRW conference. This is strictly a science environment (no commercial companies allowed) and is a forum for discussing research. I presented an area of work on the 'prudent use of antimicrobials' that we are developing. Within NZ, the use of 'off-pasture' wintering solutions is increasing. Currently we have no information on the use of non-antibiotic strategies in these environments. Given the high usage of housing in the USA, the MRW conference provided an excellent opportunity for discussion around different systems and the potential impact these may have in NZ, and on NZ milk quality.

My visit to the University of Tennessee was partially to continue developing the relationship we have with the animal science group there, specifically Gina Pighetti. Gina is also interested in the genetics of *S. uberis* mastitis resistance and we have been in contact for the last 5 years, discussing our programmes and looking for ways to collaborate. It is imperative that we not only have an international presence in the research world, but that we make use of others knowledge of different farming systems, especially when lessons already learnt can be applied here in NZ. Thank you to NZSAP, through the Animal Science Award for enabling scientists such as myself to achieve this.

William McMillan, William McMillan Consultancy Ltd, Hamilton

The primary purpose of the grant is in support of the emerging NZ sheep milking industry through visits to well-established sheep milking research groups and farms in Western Europe.

Large-scale sheep dairying in NZ is less than a decade old, with over 25,000 ewes milked annually. The NZ dairy sheep industry strategy aims to increase export earnings to \$200 m by 2030. An export industry based on high-quality and high-value NZ sheep milk-based products is a logical extension of a long history of innovation in pastoral sheep production and export of dairy products from cattle dairying in NZ.

Most of the expansion in the NZ industry is concentrated within a single pioneering enterprise, Blue River Dairy. Although industry and intensive dairy sheep knowledge is not widely available, recent developments are progressing at pace and include:

- Direct foreign investment in manufacturing and marketing in the Blue River operation
- Entry by LandCorp farming into large-scale sheep dairying in the central North Island
- Continuing growth in an established private large-scale sheep dairying enterprise in the central North Island
- Ewe Milk Products and Sheep Dairying conference held at Massey University
- Hawkes Bay Infant Formula conference in Napier for goat and sheep milk, including announcements of investment in manufacturing infrastructure by two separate companies within 2 years
- Impeding importation of dairy sheep genetics as a result of publication of the revised Import Health Standard for sheep and goat germplasm
- Substantial government research and development investment to support growth of the industry

Travel Report for the AgResearch Animal Genomics Award

Ken Dodds – AgResearch, Invermay

I recently attended the International Plant and Animal Genome (PAG) conference (<http://intlpag.org/>) in San Diego, with support from the NZSAP/AgResearch animal genomics international travel award. This conference was a mix of quantitative methods and

molecular biology. As the emphasis was on understanding the biology, there was more emphasis on genome wide association studies (GWAS) than on genomic selection (GS). This may have been due in part to it being within six months of a world congress on genetics applied to livestock production.

There was a total of 3,002 attendees from 65 countries, a program of 144 scientific workshops, 24 industry workshops, 2,174 abstracts submitted, and 1,243 posters presented. About 25% of attendees were animal scientists and 75% were plant scientists. The programme, abstracts, and in some cases presentations can be found at <https://pag.confex.com/pag/xxiii/webprogram/>.

I presented a talk entitled “Genomic Selection in New Zealand Sheep Using a Mixed-breed Training” in the Genomic Selection and Genome-Wide Association Studies workshop organised by Jianming Yu and Dorian Garrick. The workshop was designed to allow interaction between plant and animal researchers on their experiences in applying GWAS and GS.

Some of the conference highlights for me were:

- Using QTL (characterised with the help of sequence data) to improve predictions, including across breeds. J Taylor suggested that 10-20 QTL would explain 10-20% of genetic variance, but this was in contrast to M Goddard’s presentation suggesting that most of the genetic variance resides in many smallish effect QTL (0.03 to 1 genetic sd) with low allele frequencies, and that very large sample sizes (n=25000) would be needed.
- A group from the USA have mapped the ‘slick’ phenotype (reduces heat stress) to PRLR, but acknowledged that this finding was recently published by a group from LIC, NZ.
- Use of GS in aquaculture, and how it can be applied when there are large full sib families
- Developments of methods for GS and GWAS, including the use of metabolomics data (using biology to capture non-linearity), SNP selection for kinship estimation in GWAS studies and the use of environmental predictors.
- The success of long-read technologies (e.g. PacBio) in genome assembly, despite high error rates (~15%) in the reads. This technology has been used for de-novo assembly of the cow and goat genomes, and some low coverage sequence is available to improve the sheep genome assembly.
- The growing emphasis on understanding the genetics of adaption to climate change (mainly about heat stress).

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

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