

Well 2011 is over but your new committee has had two meetings and all is going well within the committee. I have taken over as President from Andrew Greer and Paul Kenyon has taken over as Vice-president as well as the publications role.

We have had an excellent response to the call for abstracts for the 2012 joint NZSAP/ASAP conference with 74 abstracts being accepted by the committee. I know many other members submitted full papers to be considered in the special issue of Animal Production Science that will be published in conjunction with the 2012 conference. Sabrina Greenwood and Grant Edwards are joint convenors of the organising committee for the conference to be held at Lincoln University from 2 – 5 July 2012. It would be great if as many members as possible can attend to show the Aussies that our society is vibrant and active.

By way of introduction for those who do not know me I am Professor of Animal Science at Massey University where I have been lecturing and researching beef and sheep production for the since 1980. Before that I grew up on a hill country sheep and beef farm near Wanganui, was a student at Massey University and then lectured for a while at the Welsh Agricultural College Aberystwyth, Wales.

It is certainly a great time to be involved in the Animal Industries with Lamb, Beef, Wool, Milk and Venison all riding high on international process at present. The \$150 lamb is becoming normal and many winter lamb finishers nudged that 190 plus dollar figure for their lambs. Of note was the high lamb carcass weights last season of 18.05 Kg .The Sheep Industry have come a long way from that 13.5 kg lamb in 1980's. The supply side will take some time to correct and we should see reasonable prices going forward. It is a similar story in beef production with many of the world's beef cow herds at an all-time low in terms of numbers due to drought and competing land uses. It will take much longer to build up these numbers hence outlook for beef remains positive.

This positivity will hopefully rub off in increased students interested in agriculture and animal production. This has been the case over last couple of years and one would hope this continues. We certainly need more agriculturalists trained in New Zealand as our scientist and consultant population ages. As a society we all need to encourage young people into careers in Agriculture and the animal industries.

I attended the members forum of the Royal Society Constituent Organisations Annual Meeting in Auckland in early November and one thing that caught my eye in the document on engagement by the society with Government. This was the Parliamentary Speakers Science forum which was designed to show key decision makers the depth of talent within the New Zealand research community and provide an understanding of the knowledge of the underlying issues to parliamentarians. This is something we as a society should get involved in and I would welcome any suggestions on potential speakers from members.

I look forward to seeing you all at the conference in July 2012

Steve Morris
NZSAP President

The opinions expressed in this Newsletter are bloody good ones, but are not necessarily those of the NZSAP

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To reduce demand for paper and therefore drive down the international carbon price, 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 and she will make it so.

NZSAP/ASAP CONFERENCE 2012

LINCOLN UNIVERSITY, LINCOLN, NEW ZEALAND

2nd to 5th July 2012

The committees of the New Zealand Society of Animal Production and the Australian Society of Animal Production are pleased to announce that the 72nd Annual NZSAP Conference and the 29th Biennial Conference of ASAP will be held together as the Second Joint Conference of the two Societies.

We would like to invite you to attend the 2nd Australian and New Zealand Societies of Animal Production Joint Conference to be held at Lincoln University, New Zealand in 2012.

The overwhelming success of the 1st ANZSAP conference held in Brisbane in 2008 has spurred on the desire to keep the tradition of a joint conference alive. Sharing science and developing lasting collaborations is paramount to the progress and success of our scientific community. We hope that the conference program will fuel enthusiasm, and provide a stimulating set of presentations and discussions from which ideas and collaborations can progress.

Key date: Submission of 1-page papers for *Animal Production in Australia (ASAP)*: Tuesday 31 January 2012

And be prepared for the great field trips and social events to ensue, showcasing all that Canterbury's prolific agricultural industry has to offer.

We look forward to seeing you at Lincoln University in July, 2012, and make sure to keep your eye on the ANZSAP website (www.anzsap.org) for further updates.

*Sabrina Greenwood and Grant Edwards
Local Organizing Committee Chairs
On behalf of the 2012 ANZSAP Organizing Committee*

AWARDS APPLICATIONS

- **Animal Science Award Applications to Executive Secretary**
- **AgResearch Animal Genomics Award applications to Executive Secretary**
- **31st January – for travel after 1st April of the year of application**
- **31st July – for travel after 1st 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 31st 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 on the website <http://nzsap.org.nz>

PAUL KENYON – SIR ARTHUR WARD AWARD WINNER 2011

Nominating Statement:

We the undersigned wish to nominate Associate Professor Paul Kenyon for the 2011 Sir Arthur Ward Award. Paul joined the staff of Massey University in 1999 and in the ensuing 12 years has produced an incredible 92 papers in refereed scientific journals, 76 refereed abstracts and conference papers and 82 extension activities and industry presentations, while still carrying a normal teaching load in Sheep Production to Veterinary and Agricultural students. By any standard Paul Kenyon has an incredible output, which indicates his scientific excellence, motivation and drive to succeed. Paul's area of expertise is Sheep Production. Areas where he has made a major contribution include pre-lamb shearing to increase lamb birth weight and survival, nutrition of twin and triplet-bearing ewes to increase lamb survival, increasing the reproductive performance of mated hoggets and use of brassicas, herbs and specialist legumes for slimmer/autumn finishing of weaned lambs.

Throughout Paul's career there has been a strong focus on solving problems of the sheep industry and he has maintained strong contacts with industry bodies, such as the (then) Sheep Council and Beef + Lamb New Zealand. A theme which has run through all the areas investigated is firstly a thorough definition of the problem, applied research into finding a solution or solutions, followed by writing up of the work for publication in both scientific journals and in industry media, field days and conferences. He has always made a point of presenting his results to the sheep industry, as shown by his average of 7 such publications per year for a 12 year period. There is no evidence of this output decreasing. Paul is very much a complete teacher, researcher and extension person, who carries out his work to the end point of industry uptake. For many years he has been in demand as a speaker at industry conferences and field days.

In terms of administrative duties Paul is the Deputy Leader of both the Massey University International Sheep Research Centre and the Massey University component of the National Research Centre for Growth and Development (a NZ Government funded CoRE). In this capacity he undertakes frequent trips to Auckland University re the CoRE and to both North Western China and Uruguay re the Sheep Centre. Paul's ability to solve problems of the sheep industry and to communicate the results to the industry, which has developed in New Zealand, is now going international. The fetal programming work done with the CoRE is likely to have future application to the sheep industry, both in NZ and internationally.

We believe these contributions of Paul Kenyon fulfill the requirements of the Sir Arthur Ward Award that the nominee has "contributed towards the adoption of a practice (or practices) that has facilitated more efficient animal production". Paul has done this in several areas of sheep production, and in the process has trained both undergraduate and postgraduate students, most of which go on to develop careers in the land-based industries.

*Tom Barry
Hugh Blair*

CHRIS MORRIS – McMEEKAN MEMORIAL AWARD 2011

Nominating Statement:

Chris Morris has had a long and productive association with Animal Genetics and Breeding Research in New Zealand. Chris was born and obtained all his formal education in the UK. He then undertook a post-doctoral fellowship at Guelph then joined the Ruakura Genetics Section as an NRAC Fellow from 1975-78 followed by 2 years at the University of New England, Armidale. Since 1980 he has worked at the Ruakura Research Campus on a wide variety of genetics related projects across all our major livestock species. For the first 15 years, most of his work involved establishing many of the genetic parameters that our breeders now take for granted.

A particular interest has been disease resistance. He undertook the genetic analysis of lines of sheep resistant, and susceptible, to internal parasites which today have a 40 fold difference in their parasite

loads. He also developed lines of sheep resistant, and susceptible, to facial eczema (FE) which now show very large differences in their response to sporidesmin dosage. He also developed lines of sheep relatively more or less resistant to ryegrass staggers and also showed that his FE resistant sheep were also resistant to some extent to ryegrass staggers. His many varied other interests and involvements include cattle parasites, dairy goats and the efficacy of zinc for FE control.

Another passion has been twinning in cattle – this work commenced in the early 1980s by building a herd of screened industry cows which had produced at least two sets of twins in their lifetime. This work has culminated this year with the joint publication, with a US collaborator, on the discovery of a novel region on Cattle Chromosome 10 that has a very large effect on bovine ovulation rate. Selection for puberty in cattle has been another long-term selection experiment; this trial which started in 1985 achieved a difference of 69 days, over 20 years, in the onset of puberty in heifers.

Since 1997 Chris has been responsible for a very large experimental cross and backcross of Jersey and Limousin cattle. This experiment was designed to identify regions of chromosomes and eventually the genes themselves responsible for traits affecting the carcass composition and meat quality traits of beef cattle. As is typical of Chris he used the opportunity of this large and expensive experiment to leverage information on as many other relevant production traits as possible. This trial has also contributed information on, gestation length, nematode parasite burdens, facial eczema resistance, temperament, hide strength and thickness, and trace element deposition in addition to very detailed measurement of carcass conformation and meat quality attributes such as marbling, fatty acid composition, fat colour, pH and tenderness.

The first major find from this study was the discovery that certain alleles of the CAPN1 gene on cattle chromosome 29 were responsible for a significant increase in meat tenderness. Chris then conducted a survey for the favourable alleles in all the major beef cattle breeds found in New Zealand. This finding is now included as part of the GeneSTAR test. The finding was further validated by a large Australian study in both *B. taurus* and *indicus* breeds. He also discovered that an allele of the myostatin gene, previously thought to have no effect on meat yield, did in fact, increase yield.

The second major finding was that alleles of the BC02 gene (β -Bcarotene-9', 10'-dioxygenase) affected fat colour. The allele in which a stop codon occurred prematurely, such that the protein didn't translate completely, gave fat and milk with a more yellow colour. An endopeptidase gene and small heat shock protein were then implicated in control of ultimate pH. Over 40 other QTL of genome-wide significance were also identified from this study although only the genome region and not the actual gene have been identified.

Chris's most recent innovation concerns selection for resistance to facial eczema (FE) in dairy cattle. The cost of sporidesmin dosing of dairy cattle is prohibitive so Chris has made use of the natural challenge to dairy herds when FE spores are at high levels in the environment.

Chris samples the blood of many thousands of dairy cows during FE outbreaks. He then tests the blood for an enzyme GGT which is indicative of liver damage. Using this information and the herd pedigree records Chris was for the first time able to assign breeding values for FE resistance to AI sires.

All of Chris's work has been well documented and published with 14 book chapters and 172 refereed publications to his credit. He had been a very strong supporter of the NZ Society for Animal Production (a member since 1976) with 77 papers in our proceedings and a further 130 presentations in other conference proceedings. He is a very worthy recipient of the NZSAP McMeekan Award.

Allan Crawford

John McEwan

NZSAP ANIMAL SCIENCE AWARD TRAVEL REPORT – KULJEET SINGH

The NZSAP travel award allowed me to attend the 10th International Symposium on the Biology of Lactation in Farm Animals (BOLFA), which was held in August 2010 in conjunction with the annual conference of the European Association of Animal Production (EAAP) on the Island of Crete, Greece.

The BOLFA meetings focus on current and emerging aspects of lactation biology of domestic farm species, and promote further research directed toward development of new methods and technologies for improving the milk production. The focus of this year's BOLFA symposium was lactation epigenetics, lactation management and extracting value from milk (milk-derived bioactives). I was an invited speaker and my presentation was entitled "Epigenetic Regulation of Milk Production in Dairy Cows".

I presented the recent results from a FRST funded collaborative research programme between AgResearch and Livestock Improvement Corporation (LIC). This research has recently highlighted critical cell signalling and epigenetic mechanisms that regulate milk production of the dairy cow. This was an excellent opportunity to show-case the significant role NZ science plays in bovine lactation research.

An immediate follow up action from the conference was the organisation of Dr. Anthony Capuco (Beltsville, USA), an external advisor of Erik Brijs, a PhD student in our laboratory, to visit NZ. Dr Capuco is an internationally recognized expert on mammary gland and lactation biology of dairy cows; including lactation persistency, mastitis and mammary stem cells. The theme for his visit to New Zealand was "Enhancing the Future Lactation Productivity of the New Zealand Dairy Cow". Dr Capuco interacted with and presented at several organisations within New Zealand that have a research focus on enhancing dairy cow lactation productivity, including AgResearch, ViaLactia BioSciences, LIC, DairyNZ, and Massey University.

The overall goal of Dr Capuco's visit was to foster capability development in the areas of mammary gland and lactation biology, particularly lactation persistency and mammary stem cells; and to form long-term collaborations with several NZ organisations. Further outcomes from my attendance at the BOLFA meeting are the plans for a sabbatical from Prof Gerardo Caja (University of Barcelona, Spain) and a scientist from our group to spend two weeks with Prof Christopher Knight (University of Copenhagen, Denmark), early in 2011.

I would like to thank NZSAP for financial support for this travel. There have been several outcomes from presenting our research at the BOLFA meeting, some of which have already been actioned, as described above, for the benefit of dairy research in NZ.

AGRESEARCH ANIMAL GENOMICS AWARD TRAVEL REPORT – JIN HAN

Thanks to the generous funding support from the New Zealand Society of Animal Production (INC) to assist with my expenses in attending the World Agricultural Biotechnology International Conference 2010 (ABIC 2010) in Saskatoon, Canada.

The theme of ABIC 2010 is **Bridging Biology and Business, with three streams: Energy, Health and Sustainability**. With over 800 worldwide scientists participated in ABIC 2010, the event offers a comprehensive overview on the biotechnology research, development and commercialization of new biotechnology to improve human health, create a sustainable food supply and foster new energy sources for all the nations, including the developing world. This conference is an essential annual event for industry leaders, scientists, researchers and other professionals who are working in the area of agricultural biotechnology. ABIC 2010 provides a unique forum where the latest scientific advances in agricultural biotechnology are presented, and where future directions of the technology are highlighted and discussed.

My PhD research is focused on the investigation of genetic variation of the Myostatin (*MSTN*) gene and how this variation may affect carcass traits and production in common New Zealand sheep breed. Myostatin acts as a negative regulator of skeletal muscle growth, and may also contribute both to the regulation of adipogenesis and affect tendon structure and function during pre-natal and post-natal development. Genetic variations in the myostatin gene (*MSTN*) have been associated with a “double-muscling” phenotype in certain “meaty” sheep breeds. Hence, *MSTN* has been recognized as a useful gene as regards increasing muscle mass in animals. Genetic variation in *MSTN* gene may therefore, be a useful way of increasing the value of sheep production systems in New Zealand.

A paper abstract from my preliminary work which entitled “Genetic variation of the Myostatin (*MSTN*) gene and its association with carcass traits and production in New Zealand (NZ) Romney sheep” was accepted by the conference committee, and a poster raised from this paper abstracted was also presented at the conference. A lot of kindly comments and useful feedback about my work were given from the experienced researchers and top bio-scientists in this field during the poster discussion sessions, which definitely help me with better understanding of my research topic, and also provide insight into further research development in the future.

Once again, let me thank the New Zealand Society of Animal Production (INC) for kindly providing me with the AgResearch Animal Genomics International Travel Award (2010) to assist me to attend the ABIC 2010 conference.

McMEEKAN AND SIR ARTHUR WARD AWARDS AND LIFE MEMBERSHIP _____

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.

The Management Committee is also seeking recommendations for the conferment of **Honorary Life Membership**. The Committee shall consider recommendations from members and a formal nomination will be read at the 2012 Annual General Meeting. **Honorary Life Members** shall be persons who have rendered significant service to the cause of animal production. Last year Life Membership was been conferred on John Smith and Jock Macmillan.

Nominations for these awards should be sent to the Executive Secretary by **March 31st**

NZSAP ANIMAL SCIENCE AWARD TRAVEL REPORT – KERST STELWAGEN

I attended the combined annual conference of the American Society of Animal Science (ASAS) and the American Dairy Science Association (ADSA) held in hot and humid New Orleans, USA (July 11-14). I also attended the Triennial Lactation Symposium, held on the day immediately preceding the main conference, i.e. July 9. The Animal Science Award of the NZSAP contributed towards the costs of this trip, enabling me to attend the Conference and give a presentation on *Reduced milking frequency increases the concentration of host-defence proteins in milk*.

The annual ADSA/ASAS conference is a large conference attracting scientists, extension people and policy makers from all over the world, presenting the latest research on a wide range of topics such as nutrition, lactation, genetics, physiology and animal welfare, animal health, forages, reproduction and growth and development, covering dairy and beef cattle, sheep, goats horses and pigs. This year there were 3,112 participants and almost 900 abstracts were presented.

The Triennial Lactation Symposium, was a special one, in honour of the late Prof. H. Alan Tucker. All the (invited) presentations were on various aspects of lactation and reproduction, presented by former PhD graduates of Prof Tucker and their graduates. A range of topics was presented and had he been there, no doubt, he would have thoroughly enjoyed the symposium.

Once-daily milking of dairy cows is an increasingly common practice in New Zealand, but is far from common in other parts of the world, where the interest is rather on more frequent milking. One overseas group, in France, however is quite actively conducting research on once-daily milking and they presented some interesting work at the conference and they are keen to collaborate with us in New Zealand.

Whilst at the conference I was approached for nomination to the Editorial Board of the *Journal of Dairy Science*, and have been elected for three years as editor of the Physiology and Management Section of the journal.

Overall, this was a very stimulating and enjoyable conference and I would like to acknowledge and thank the NZSAP for their contribution through the Animal Science Award.

AGRESEARCH ANIMAL GENOMICS INTERNATIONAL TRAVEL FUND AWARDS

Rayna Anderson (Scientist, AgResearch) \$2,500: To attend the Plant and Animal Genome Conference in San Diego from January 14th to 18th, 2012. AgResearch has developed a 5K ovine chip and is currently evaluating the accuracy of imputation and its potential as a commercial product. Rayna would present results from this work.

Talia Grala (PhD student, DairyNZ) \$3500: to attend and present at the Federation of American Societies for Experimental Biology annual meeting, San Diego, April 2012. She will present a paper on the effects of milking frequency and nutrition on liver, adipose tissue and mammary mRNA expression.

MEMBERSHIP

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

DR RICHARD COOK, INVERCARGILL

SUE WILKINS, WELLINGTON

4 resignations were received and 7 members were struck off for non-payment of membership, leaving a Current Membership Total of 449.

MANAGEMENT COMMITTEE

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

Any contributions to the Newsletter should be forwarded to: Aaron Meikle, Beef + Lamb New Zealand, PO Box 390, Oamaru 9444. Email: aaron.meikle@beeflambnz.com

