

# NEW ZEALAND SOCIETY OF ANIMAL PRODUCTION (INC)

PRESIDENT'S PIECE MAY 2015

Planning is proceeding well for the 2015 Conference in Dunedin. **John McEwan** and his team have put together a strong conference programme themed around "Options and Opportunities around South Island Hill Country" and will feature several contract sessions in addition to contributed papers. There will be plenty to keep the delegates happy with planned contract sessions in: farm systems; beef production; dairy milk and genomic selection. The Living Legend presentation this year will be a team effort conducted by Invermay scientists with focus on the "the Impact of Invermay", profiling the history of Invermay and its impact on animal production in New Zealand".

The impact of Invermay on animal production systems in New Zealand has been large, so it is pleasing that we are close by in Dunedin, where we celebrate the 75<sup>th</sup> Conference of the New Zealand Society of Animal Production. At the 50<sup>th</sup> Jubilee conference in his Presidential address Ken Dury spoke about the importance of both basic and applied research, and the important flow of information from research to farmers. He mentioned the threats to funding of animal production research. These points are equally valid now, with little current prospect that of increased funding for research in the animal production sector. Yet, the animal production sector remains critically important to the prosperity of New Zealand, and as a society we must consider to strive to deliver, basic and applied research outputs, linked to the production, health, welfare, and environmental performance of our livestock production systems. At the conference, life member, **Alistair Nicol** will document some of the key contributions of the society to animal production in New Zealand over the past 25 years. I look forward to Alistair's view on how well we have done over the last 25 years.

Further, to the annual conference the society will promote animal production in New Zealand through support of two joint conferences in the coming year. First, the joint Australian Society of Animal Production- New Zealand Society of Animal Production, conference to be held in Adelaide, July 2016. This conference with a theme of animal welfare- meeting consumer demands and increasing productivity follows in the footsteps of successful joint conferences in Brisbane in 2009 and at Lincoln in 2012. Secondly, The Hill Country Symposium to be held in Rotorua in May 2016. This is a joint effort by the NZ Grassland Association, the NZ Society of Animal Production and the NZ Grassland Trust. It will bring together outstanding farmers, industry leaders, scientists, and agribusiness to review existing knowledge, learn from leading farmers and practitioners and set direction for the future of this land. The hill country is fast becoming the foundation and finishing platform for the sheep and beef industries as flat land is lost to other enterprises. However, over the past 25 years there has been dwindling support for this farming sector. The hill country symposium seeks to raise the profile of New Zealand's hill country communities and businesses and set the direction for changes that are required to ensure profitable and resilient farming continues.

Looking forward to seeing you at these conferences

Grant Edwards
NZSAP President

### **VERY IMPORTANT NOTICES**

## REGISTRATION FOR THE 2015 NZSAP CONFERENCE AVAILABLE ONLINE NOW PLEASE PAY OVERDUE SUBS

NZSAP Conference 2015							
The 2015 NZSAP conference will be held at the Art Gallery in Dunedin from <b>Sunday 28 June</b> to <b>Wednesday 1 July 2015</b> .							
The conference is themed around "Options and Opportunities around South Island Hill Country" and will feature several contract sessions in addition to contributed papers.							
Proposed contract sessions include:							
Farm Systems							
Beef Production							
Dairy Sheep							
Genomic selection – where to now							
The Living Legend this year will be "the Impact of Invermay", profiling the history of Invermay and its impact on animal production in New Zealand.							
Further information on the conference program <a href="www.nzsap.org.nz/conference">www.nzsap.org.nz/conference</a> Or to register <a href="www.eiseverywhere.com/ehome/107728">www.eiseverywhere.com/ehome/107728</a> please follow the links provided.							
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 <b>Tuesday 12<sup>th</sup> to Wednesday 13<sup>th</sup> of April 2016</b> . 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 <a href="www.nzsap.org/blog/hill-country-symposium-2016">www.nzsap.org/blog/hill-country-symposium-2016</a>							
Joint ASAP/NZSAP International Conference to be held in Adelaide, South Australia from <b>Sunday 3<sup>rd</sup> to Wednesday 6<sup>th</sup> of July 2016</b> . The conference will be themed around "Animal Welfare: meeting consumer demands and increasing productivity. Please keep an eye on our conference page <a href="www.nzsap.org/content/conference">www.nzsap.org/content/conference</a> for future details regarding this event.							

The proceedings of the NZSAP is now open access and can be accessed using the following

NZSAP PROCEEDINGS NOW FREE ONLINE \_\_\_\_\_

link www.nzsap.org/proceedings

#### **Travel Report for Animal Science Award**

#### Dr Tricia Johnson, AgResearch Invermay

As a result of being awarded a New Zealand Society of Animal Production Animal Science Award I was able to attend the World Congress on Genetics Applied to Livestock Production. My reason for wanting to attend this conference was several fold. Firstly it had been eight years since I last attended the congress and the landscape of genetics research has changed considerably in this time (describe more in a subsequent paragraph). Additionally I am lead scientist for the phenotyping objectives in the newly formed Beef + Lamb New Zealand Genetics Programme, which has as its over arching objective improving the productivity and profitability of sheep and cattle in a hill country environment which is a change of focus both for programme (compared to the previous entity – Ovita) and myself. So attendance at the conference allowed me to become as informed as possible about the current status of genetics research world wide and has allowed me to develop up the best research programmes possible for Beef + Lamb New Zealand Genetics to maximise the benefit to New Zealand sheep breeders and ultimately the sheep industry as a whole.

The World Congress on Genetics Applied to Livestock Production is an International Conference held every four years. In August 2015 it was held in Vancouver, Canada and was attended by more than 1300 delegates from around the world. The content of the conference was wide ranging, both in terms of species and traits covered, but also the breadth of genetics research covered from the development of novel statistical analysis methods through to application in industry. It was eight years since I had last attended the conference, eight years in which molecular genetics has moved from the use of microsatellite DNA markers and the identification of QTL (quantitative trait loci) through to the sequencing of whole genomes and development of high density SNP (Single Nucleotide Polymorphisms) chips and the development of whole genome selection methodologies. Whole genome selection assumes that each trait of interest is controlled by a number of genes all of which have a small but cumulative affect on the traits of interest, these SNP chips also allow discovery of a genomic region of large effect (Genome Wide Association Studies). So a number of the "methodology" presentations were about how to analyse such genomic data, and bring it together with existing phenotypic data on individuals – blending – to produce genomic breeding values that can be used for selection in breeding programmes. There were a lot of very amazing minds presenting on this subject and it remains one where are differences of opinion as to whether there is a gold standard approach, time will tell who was right!

Once again, as a sheep geneticist it was unsurprisingly apparent that we are behind the international dairy and beef industries in terms of development of genomic tools and implementation of them in the industry. In reality though, we are certainly on the right track in terms of the use of high density SNP chips and whole genome sequencing – with it just a matter of number of animals genotyped that is our limitation versus our use of the technologies, in other words less research dollars being available. From a New Zealand Inc perspective, it was however, pleasing to see that LIC are worldwide leaders for actual implementation of genomics in the NZ dairy industry.

Pleasing for me, in terms of the my purpose of attending the conference, was that the single trait most commonly presented across species was Feed Efficiency which is the new trait being considered in the Beef + Lamb New Zealand Genetics programme, together with an emphasis on Green House Gas Emissions. Although none of the other international groups working on sheep feed efficiency presented at the conference, it was very beneficial to understand where other species are at and what the important considerations will be for our research programme that we are currently implementing. One of the key messages I got out of the various presentations was that it was very important to be to characterise the body

composition of the animals as this can have significant implications on the energy requirements of the individual. When talking to a number of people who had presented for beef or dairy, I suggested that because we were looking at sheep we had the potential to CT scan to estimate body composition, and it was felt that this was a very worthwhile thing to do as any subjective estimate of body condition, or the use of ultrasound for subcutaneous fat depth does not accurately estimate internal fat reserves. From that perspective I came away from the conference feeling "up to date" on the latest in Feed Efficiency research, and feeling that the research programme that we are currently implementing should be successful.

#### Other Specific Presentations of interest:

- A presentation by Mortimer et al. (from Australia) was of great interest, given another
  aspect of my work is considering the analysis of measures of fat and lean yield in
  carcasses. It considered the fact that in most analyses we adjust our carcass measures
  for a measure of weight (liveweight in their instance) and that because they are highly
  correlated traits that it has implications for the way genetic parameters are estimated.
  Whilst the results of their paper were a little in conclusive as to the best way forward, it
  has provided me with ideas for alternate analysis methods for my own data sets.
- One of the limitations of carrying out Genome Wide Association Studies (GWAS) is the cost associated with genotyping the often large number of individuals required. A presentation by a team from Australia presented by PhD student Amy Bell, the idea of pooling DNA of individuals with a given "case" phenotype (e.g. in their case dag score) and corresponding "controls" and then looking at the intensity of the genotype calls to identify regions that had different genotypes between the cases and controls. This idea has been brought back to our team and its potential will be investigated on a single trait in the first instance.
- At the conference I heard for the first time, in a presentation by Dr Peter Visscher, about the ability of DNA methylation profiles to be predictors of biological age of individuals, potentially representing how much stress (e.g. smoking) they have been exposed to and what their life span might be. This has now been reported in the public media for human applications. Our team found it to be one of the more intriguing new areas of research, especially given our interest in the longevity of sheep in our research programmes. Leading on from this then our team is developing up research proposals in this space.

Cumulatively I was able to fulfil my objectives of attending the conference in terms of coming away with an up to date understanding of where the different groups world wide are sitting in the genetics space, not only in terms of technologies and methodologies but also the traits of importance and relevance. This knowledge has helped contribute to the development of research plans for the Beef + Lamb New Zealand Genetics programme which will in time lead to best use of genomic technologies and traits for uptake by New Zealand sheep breeders benefit which will ultimately benefit the sheep industry as a whole.

A New Zealand team led by Hugh Blair, Dorian Garrick and Richard Spelman have been successful in securing the next WCGALP to be held in Auckland in 2018. It will be the first time that it has been held in New Zealand, so it is an exciting prospect to have all of the world leaders in animal breeding and genetics descending on NZ in 2018. It will be especially interesting to see who has "won" in terms of the best approach for blending together molecular breeding value information with traditional breeding values, and whose rate of genetic gain has been accelerated the most through the best implementation of genomic technologies.

My thanks to the New Zealand Society of Animal Production for awarding me the Travel Award, allowing me to attend the congress.

#### Travel Reports for the AgResearch Animal Genomics Award

#### Wendy Bain – INNERVISION™ AgResearch, Invermay

The NZSAP AgResearch Animal Genomics International Travel Award gave me the opportunity to attend the 10<sup>th</sup> World Congress on Genetics Applied to Livestock Production (WCGALP) in Vancouver Canada which was held in August 2014.

The WCGALP conference is a large meeting with approximately 1500 participants from around the world. There were 6 keynote speakers, approximately 300 oral presentations and 550 eposters. It encompasses a full week covering a wide range of topics including quantitative genetics, statistics, bioinformatics, molecular genetics, as well including those of significance for my current work; disease resistance, growth and development, reproduction and feed intake.

I also attended the animal selection, genetics and genomics network (ASGGN) workshop which was held on the Sunday prior to the conference starting. This gave me insight into the extensive research in the greenhouse gas, feed efficiency and methane yield areas, where New Zealand certainly seems to be leading the way.

In the session for Selection for Reduced Environmental Impact I presented my paper on Rumen Differences between Sheep Identified as being Low or High Methane Emitters. This was well received, resulting in some questions and stimulating further discussion later that day.

This was an amazing opportunity for a research associate, and I returned to New Zealand with a lot more knowledge about research on global scale.

I would like to thank NZSAP for their financial support which made attending this conference possible. The knowledge gained has given me the opportunity to grow and develop my career at AgResearch.

#### Mallory Crookenden – PhD student, University of Auckland.

The NZSAP AgResearch Animal Genomics International Travel Award supported my travel to visit two collaborating laboratories in the USA in September 2014. This award provided the opportunity to meet with distinguished scientists at the University of Illinois in Urbana-Champaign and the University of Maryland in Washington DC.

I was at the University of Illinois for two weeks where I had the opportunity to work with a laboratory group in the Animal Sciences department. This group have collaborated with DairyNZ on a number of projects. Their research explores how nutrition and physiological state alter gene expression and cellular metabolism, particularly in liver, adipose, and mammary tissue of the dairy cow, and how this relates to the animal's health and welfare. This research, and the techniques they employ to conduct it, are very relevant to the work I am conducting as part of my PhD in the role of immune function in the health of the periparturient cow in New Zealand. I presented preliminary data from my PhD and had the opportunity to discuss my research and gain input from other scientists in the field. During my time in this laboratory, I learnt valuable research skills and gained 'hands on' experience in their molecular techniques and transcriptomics analysis software. Not only was this a great learning experience, but I had wonderful time experiencing the American university atmosphere and culture and attended dairy science seminars conducted by distinguished professors.

During my time at the University of Illinois, I also visited the university dairy research farm and participated in on-farm technical assistance including support in a calf liver biopsy, something I had never done before. It was also very interesting to learn about dairy farm systems in the US, given my experience has been limited to NZ pasture-based systems.

At the University of Maryland, I met with another prominent scientist collaborating with our researchers, Dr Kasey Moyes. Her research is also very well aligned to aspects of my PhD research. It was fantastic to discuss these projects in person and acquire valuable knowledge for designing future collaborative experiments.

Overall, I had a very enjoyable time and the trip proved to be an indispensable learning and networking experience, and was invaluable for my development as a scientist. As a result of my visit, we have instigated another collaborative project with the University of Maryland and

the University of Illinois to better define what a successful transition between pregnancy and lactation look like at the neutrophil transcriptome level. I am very grateful for the financial support provided by the travel grant and the opportunities that have arisen out of the experience.

#### 2015 ANNUAL GENERAL MEETING OF NZSAP

The 75th Annual General Meeting of the New Zealand Society of Animal Production Inc. will be held at the Conference Venue Dunedin

#### **Agenda**

Apologies
Minutes from 2014 Meeting
Matters Arising
Presidential Report
Treasurer's Report
Editor's Report
Publication Manager's Report
Election of Officers
Next Conference
General Business

## New Zealand Society of Animal Production Annual General Meeting Minutes 2014

Meeting Date : 30 June 2014 Meeting Time : 17:00 h

Meeting Place Napier War Memorial Conference Centre, Marine Parade, Napier

President David Pacheco declared the meeting open at 17:00 h on the 30 June 2014.

In attendance: 53 members.

#### **Apologies**

Nicola Schreurs, Rebecca Hickson

Apologies received and accepted. Moved: David Pacheco. Carried.

#### Minutes of previous AGM

Motion that the minutes of the AGM on 2<sup>nd</sup> of July 2013, circulated in the newsletter are accepted as a true and correct record.

Moved: Steve Morris. Seconded: Paul Kenyon. Carried.

#### Matters arising from the minutes

None

#### **President's Report**

#### Key points:

- Objectives of the society are being met.
- oThe objectives of the Society include promoting collaboration through the annual conference, being forward looking in nurturing young members, and developing new ideas for improved animal production, and promotion of the value of science in animal production.
- During the past year we conducted our usual activities such as YMA session and awards, travel awards administered by the society, publication of the conference proceedings, developed a new Occasional Publication, our newsletter and the annual conference to meet Society objectives.
- o We have strengthened the new relationship with ASAP.
- o In addition, we have had two years of our living Legends session which I believe has been a success.
- OWe have up graded the website.
- oYoung member award participant numbers are down this year. We may need to follow this is it an issue with it having to be a full paper. The Society this year is supporting Young members financially to come to the conference to present their findings.
- OMembership currently stands at 393, with a large number of inactive members being deleted. This number probably parallels trends in reduced numbers of animal scientists since the high numbers in the 1980's and is not seen as a concern.
- ○No nominations for the McMeekan award members need to remember to nominate people and send nominations to the incoming committee
- Vote of thanks to the members of the 2013-14 Management Committee of the NZSAP this years committee had a good representation across Islands/universities/CRI's. Thanks to Sally Anne Turner for assisting the Treasurer and Jane Kay for assisting the Exec Secretary.
- Also thanks given to the 2014 Organising Committee of the Annual Conference.
- Acknowledgement of representatives for the Society
- OJenny Juengel International Congress for Animal Production
- O David Scobie National Animal Welfare Advisory Committee
- Penny Back Spragg Agricultural Trust
- oJohn McEwan AgResearch Genomics Award Committee
- o Patrick Morel Editorial representative for the Asian-Australian Journal of Animal Sciences
- Awards in 2013:

University Jubilee Award: Lisa Lewis (Lincoln), Farrah McLean (Massey)

Young Member Award:
 Innovation Award:
 McMeekan Memorial Award:
 Sir Arthur Ward Award:
 Life Member:
 Living Legend:
 Landcorp Farming Ltd Lecture:
 Nicola Law
 Not awarded
 Geoff Nicoll
 Dave Clark
 Ian Clarke

- Travel Awards 2013:
- OAnimal Science Awards: Kuljeet Singh, Christine Couldrey, Mairi Stewart, Patricia Johnson, Dawn Dalley
- OAgR Animal Genomics: Wendy Bain, Mallory Crookenden, Steve Davis
- Ruminant Reproduction Symposium (RRS) Travel Award: Graham Barrell, Jenny Juengel
- Sponsorship: Otago Science Fair
- O Note: the Society welcomes opportunities to provide sponsorship

Move that the President report be accepted. Moved: David Pacheco Carried.

#### Treasurer's report.

Presented by Thomas Lopdell.

Hard copies of the Annual Financial report for the year ended 31 December 2013 were made available at the meeting for the members attending the AGM.

#### Key points:

- Revenue of \$151,567, expenditure \$138,300. This resulted in a net surplus (after impairment of investments) of \$25,000.
- Main items in revenue were:
- o Conference income down by \$55,000 as it was not a joint conference with the Australian Society
- ODonations also down due to previous year having an additional \$25,000 which was invested for the Murray Woolford Travel Award Award.
- OInterest similar to previous year
- o Publications income increase by approx. \$10,000 due to sales of the new Welfare OP.
- Main items in expenditure were
- Accounting and audit fees were similar.
- Conference expenses: \$53,930.
- OAwards: both NZSAP awards and AgR Genomics were down on previous year. RRS awarded this happens every 4 years. No awards made from Murray Woolford account yet. Most award accounts have increased in value.
- Rest comprised of administration expenses, printing and publication costs that are similar to previous year.
- Closing equity was \$661,745
- oCurrent assets: Approx \$3763 lower than 2012. Includes payments by paypal which have not been banked and a decrease in the 67 account which is used to fund OP publication.
- ONon-current assets: Awards accounts and Bonds have increased in value.

Move that the treasurer's annual financial report as circulated be accepted as an accurate record of the Society's accounts.

Moved: Thomas Lopdell, Seconded: Paul Kenyon. Carried.

Move that the annual subscriptions for 2014-15 remain at \$85 for full members, \$42.50 for student and retired members and US\$85 for overseas members outside Australia.

Moved: Thomas Lopdell, Seconded: Andy Greer. Carried.

Move that the AGM give leave to the Management Committee to appoint Auditors for the 2014 Society accounts.

Moved: Thomas Lopdell, Seconded: Steve Morris. Carried.

#### **Publication manager's report**

Presented by Paul Kenyon

- New Welfare OP selling well.
- Sufficient numbers of Pasture and Supplements OP to last 2 years on current sales.
- The Pasture and Supplements OP will be updated and include a 'systems' section with relevant species, rather than develop a whole 'Pastoral-based Farming Systems book' as proposed at last year's AGM. Paul Kenyon to start process by contacting original authors to determine interest in updating chapters.
- Use of Sciquest means no-one can access our publications. Propose all papers are available by open access on our website from next month.
- New copyright and disclaimer form needed as we move to open-access.

Move that the Society is agreeable to remove publications from Sciquest and for them to be freely available on the Society website.

Moved Paul Kenyon. Seconded Jamie Ward. Moved.

Discussion from the floor was held about the disclaimer form and copyright. Copyright was seen as a cause of people not publishing in the Society. Issues re copyright to be dealt with by the incoming management committee. A disclaimer is to be included on the front of papers and Authors release form still needs to be signed and submitted with conference papers. It was asked if the potential loss of membership due to open-access been considered? The Committee had, and it was felt that as the Red book still being published, which is what most members received for their membership so this would not be impacted. And it is possible to track who was using publications on web site to see if this was occurring. The website would also have other articles available that can be accessed.

It was pointed out that Grasslands was open access and had not seen a decrease in membership.

Whereas AAABG used an open-access system and had seen a decrease in membership but recouped costs through the conference. So, open-access was not seen as being detrimental to the Society membership.

People still need to be a Society member to be eligible for awards, and at least 1 member of the authorship list needs to be a Society member to publish.

Move that the Society gives leave to the incoming committee to investigate disclaimer and copyright issue.

Moved Paul Kenyon. Seconded Dean Burnham. Moved.

Move that the Publication manager's report be accepted. Moved: Paul Kenyon, Seconded: Grant Edwards. Carried.

#### Election of officers (2013-2014)

Nominations for the following positions were received:

Past-president
 President
 Vice President
 David Pacheco (AgResearch)
 Grant Edwards (Lincoln University)
 Chris Logan (Lincoln University)

• Treasurer Thomas Lopdell (LIC)

Secretary
 Newsletter
 Publications
 Website Manager
 Nicola Schreurs (Massey University)
 Racheal Bryant (Lincoln University)
 Paul Kenyon (Massey University)
 Rebecca Hickson (Massey University)

• Conference Organiser Neville Jopson (AbacusBio)/John McEwan (AgResearch)

• Farmer Liaison TBA

• Executive Secretary Kate Crookston

Proceedings Editor
 TBA

President, David Pacheco called for any last minute nominations from the floor, and none being put forward, called for the nomination for officers to be closed.

There being only one nomination for each position, the nominated persons were declared elected. Carried by acclamation.

#### **2015 Conference**

2015 Conference - Back to Dunedin.

Co-chairs of the conference organising committee are: Neville Jopson and John McEwan

Theme: Opportunities and Challenges for South Island Hill Country (TBC).

Intended to hold conference 29 June – 1 July 2015.

#### General business

None

Meeting adjourned at 17.45 h until the conference dinner

Meeting reconvened at 19.50 h at the Conference dinner awards ceremony at the Masonic Hotel, Napier

#### **Awards**

• 2014 Awards:

University Jubilee Award: Massey: Kate Edwards Lincoln: Racheal Wilson

Young Member Award: Birch Jenkinson Innovation Award: Not awarded

McMeekan Memorial Award:

Sir Arthur Ward Award: Dereck Moot. Citation read by Grant Edwards.

Life Member: Andrew Sykes\*
Living Legend: Geoff Nicoll
Landcorp Farming Ltd Lecture: Peter Janssen

# 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

New Members	
IALM MILMDENS	

The NZSAP would like to welcome all our new members:

Dr Ken Dodds Sally Peel Brigette Ravera Louise Davison Jasper Munro Natasha Drake Dr Rosemary Rickman Charlotte Gray Dr Bryce Duc Lu Beck Broughan Dr Kathryn McRae Dr Patrick Todd Andrea Murphy Dr Graham Lean Kelly Collier Dr Shannon Clarke

Rhiannon Handcock Jack Scahill Alabi John Bozinviya Peter Klaassen

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

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 Kate Crookston, Executive Secretary at <a href="mailto:nzsap.inc@gmail.com">nzsap.inc@gmail.com</a> and she will make it so.

<sup>\*</sup>Life Member: Andrew Sykes in abstentia. Unfortunately due to bereavement Andrew was not able to be present. Grant Edwards addressed the Society on Andrew's behalf. Andrew was not able to be present due to death of Jan H. Jan's contribution to the Society through supporting Lincoln staff was recognised. Citation was not read – to be read in 2015 by Andy Greer.

#### **Management Committee**

			Phone	Fax	Email	Location
PRESIDENT	Grant Edwards	03 423-0660		Grant.Edwards@lincoln.ac.nz	Lincoln University	
VICE- PRESIDENT	Chris Logan	03 423-0670		Chris.Logan@lincoln.ac.nz	Lincoln University	
Past-PRESIDENT	David Pacheco	06 351 8232	06 351 8003	david.pacheco@agresearch.co.nz	AgResearch Grasslands	
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An electronic version of this newsletter and other information on the Society is available at: <a href="https://www.nzsap.org.nz">www.nzsap.org.nz</a>

Any contributions to the Newsletter should be forwarded to: Racheal Bryant, Lincoln University, AGLS Faculty, PO Box 84, Lincoln University 7647.

Email: Racheal.Bryant@lincoln.ac.nz

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