

NZ GRASSLAND ASSOCIATION

Fuelled by Science, Tempered by Experience

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GRASSLAND NEWS

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FROM THE PRESIDENT

David Stevens

Merry Christmas to all, and seasons greetings to those who don't celebrate Christmas. The coming holiday is often a time for reflection, and ACC claims, which help aid reflection as torn muscles are rested.

Our contributors this month provide some interesting opportunities to reflect. Jacqueline Rowarth poses questions around our continued slide as a generation that is losing sight of what science is, and is about.

Science is here to test and explore and find new things. Interestingly the general population appears to understand less and less about the process. Jacqueline uses an example of fluoridation of the water. Those who want change away from its use appear to be ignoring science in lieu of sticking to entrenched views, unable to accept that there is little more science to do in that space.

The use of genetic modification again rears its head. Interestingly, the debate about gene deletion to render pests infertile may actually get through, as our population deems this type of approach to be in a similar realm to

using genetically modified organisms to produce insulin. Especially if we can reduce or eliminate the use of 1080 poison at the same time. This emphasises Jacqueline's point about Post-Truth decision making. Even though the arguments include the same facts, the nearer it threatens to our own mortality, or core values, the more likely we are to want change.

Jeff Morton comes back refreshed from the UK. We must acknowledge the stalwarts in our own community, like the late John Aspinall, who have championed the joint negotiation of access to land in this country. Our current position provides a pragmatic way to access land, and keeps the dialogue between the farmer and the urban population open, rather than the closed version that Jeff describes.

Outcomes from Brexit and Trump-ed are yet to be felt, but we need to be ready. Regardless of the political speak that is out there, the real effects are unknown and could be significant to the world.

NZGA CALL FOR PAPERS REMINDER FOR WHANGANUI 2017

Abstracts are due to the editor by Friday 17th February 2017.

For further details on the topics, submission dates and more download the [Call for Abstracts here](#).

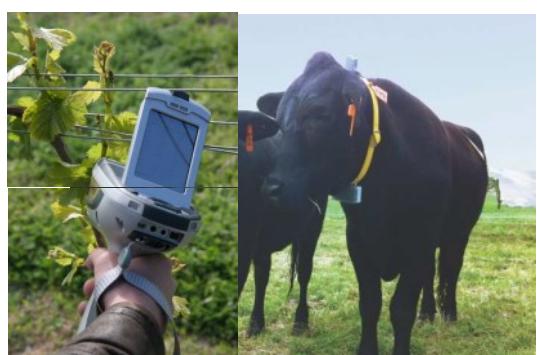
New Zealand to host ACPA and ACPLF events in October 2017 – call for abstracts extended

In October 2017 the Precision Agriculture Association of NZ (PAANZ) will host the joint 7th Asian-Australasian Precision Conference on Precision Ag (ACPA) and 1st Asian-Australasian Conference for Precision Livestock Farming (ACPLF) in Hamilton.

Venue: Claudelands Conference and Exhibition Centre
Mon 16th - Wed 18th October 2017
Preconference tours Thursday 19th and Friday 20th October

The call for abstracts is open with submissions due by 27 January 2017. More information on the call for abstracts can be found [here](#).

We look forward to an exciting conference that will showcase the latest in research and development in the precision ag and livestock arena.



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Post-truth has been selected as the 2016 international word of the year by Oxford Dictionaries. The selection consolidates what some consider to be a dismal slide – last year an emoji (tears of joy) was chosen, 2014 was vape (to inhale and exhale the vapour produced by an electronic cigarette or similar device) and 2013 was selfie. Note that the use of selfie (a photograph that one has taken of oneself and uploaded to a social media website) had increased 17,000% in comparison with the previous year when chosen.

Statistics aside, the slide into emotion and egotism seems to have been accepted. There are only a few Pliny-Socrates-Hesiod (attribution varies) doomsayers about the slide.

Before 1992 the post-truth term referred to the time after the facts were known. Since 1992, however, and in the Oxford Dictionary choice, it is defined as an adjective relating to circumstances in which objective facts are less influential in shaping public opinion than emotional appeals.

The current state in the UK (caused by Brexit – another made up word) and America (Trumped-up...) are the reasons for the increase in use of the word, and could also be the very reason for a return to objective rather than subjective decision-making. Time will tell.... but with the alert, New Zealand is in a position to avoid the northern hemisphere 'dismal slide'.

We're already teetering.

Suggestions that the earthquakes were precipitated by, variously, sin, the super-moon and oil exploration make the point. GNS Science (the Crown Research Institute with a focus on earth science, energy and resources, natural hazards and environment and materials) has tried to dispel the myths, yet media coverage of 'theories' continued, presumably because of public interest.

The fundamental problem is that it is easier to accept speculations than it is to understand the geology of New Zealand, however much the scientists from GNS try to explain.

Similarly, it is easier to understand people who are anti 1080 or genetic engineering than it is to evaluate the pros and cons.

For 1080, Dave Hansford's book 'Protecting Paradise' might help. Published this year it provides an accessible consideration of the claims around the use of 1080. The Parliamentary Commissioner for the Environment (PCE) has also evaluated its use. Both book and report conclude that however unpalatable the concept of spreading poison through the forest, 1080 poison remains a crucial tool in the fight to be predator-free. Mr Hanson suggests that New Zealand has a stark choice – 'either we use 1080 or we watch more of our native wildlife vanish'.

Gene editing could, however, be another tool.

Imagine the potential to render introduced predators such as rodents, mustelids and possums sterile with no upset to behaviour apart from the fact that they couldn't reproduce.

In the US, gene editing without insertion of new material is

not considered to be engineering. This is not the case in New Zealand.

Gene editing has the potential to bring huge benefits to New Zealand, including in healthcare, agriculture and conservation. The Royal Society of New Zealand (RSNZ) has convened a panel to consider the social, ethical & legal issues in gene editing, especially for the human genome.

The debate will be heated. Last time the RSNZ presented to the Royal Commission on Genetic modification, two submissions were made – one from the Social Scientists and one from the 'other' scientists.

The final report from the Commission, published in 2001, is available on the Ministry for the Environment webpage. The result was a moratorium on the use of GE in New Zealand unless for experimental purposes and in containment.

The decision was made on the basis of available facts, evidence and data, but 16 years on these have changed. The new gene editing techniques are more precise than the technologies available twenty years ago, and the state of our wildlife is more precarious.

Evaluation must be based on objective criteria. The challenge is then to assist society to understand the pros and cons, and then why decisions are being made. The greater good must be part of the thinking.

And some of the answer could lie in a runner-up in selection for the word of the year.

'Adulting' is 'the practice of behaving in a way characteristic of a responsible adult, especially the accomplishment of mundane but necessary tasks'.

Objective evaluation... is a necessary task, it is also vital for New Zealand's future.

<https://en.oxforddictionaries.com/word-of-the-year/word-of-the-year-2016>

<https://www.gns.cri.nz/>

<http://www.pce.parliament.nz/media/1294/evaluating-the-use-of-1080.pdf>

<http://www.radionz.co.nz/national/programmes/ninetonoon/audio/201824221/gene-editing,-implications-for-nz>

<http://www.mfe.govt.nz/publications/hazards/report-royal-commission-genetic-modification>

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NBR 25 Nov 2016

A ‘Smarty-pants’ is variously defined as a person who displays intelligence in an annoying way, and a person who talks and behaves like someone who knows everything. A web example explaining the term is ‘Here comes Mr Smarty-pants – bet he’s going to tell us about how to fix my car.... He’s always shooting his mouth off about all the things he can do.’

The term has recently been applied to scientists, particularly about the use of fluoride in water to protect against dental caries. The layman supported her stance with the statement that 20 years of research had resulted in ‘more knowledge about fluoride than the smarty pants academics’.

The irony is that very few scientists do claim that they know more than anybody else. Nor do they claim 100% knowledge. Part of the scientific education is about evaluation of probabilities, balance of risk and understanding of likelihood; it is about realising what you don’t know and uncovering more questions in need of answers, and then establishing the hypotheses against which an experiment can be designed and data can be gathered, analysed and interpreted.

It is also about evaluating actual research as well as reading around the subject, learning how to differentiate fact from opinion and evaluating the weight of the evidence.

The World Health Organization and the FDI World Dental Federation support the use of fluoride. The Centers for Disease Control and Prevention list water fluoridation as one of the ten great public health achievements of the 20th Century in the US.

From the weight of the evidence presented by independent bodies, it would appear that fluoride at a very low dose reduces cavities in teeth. Countries that have fluoride in water sources naturally don’t need to add it; countries that have taken action reduced incidence of dental caries by 50–60% in the 1950s and 60s. The reduction has been less dramatic in subsequent decades, probably due to the use of fluoridated toothpaste. The aim in fluoridating water is to improve dental health, whether or not there is access to fluoridated toothpaste.

Vaccination suffers similar controversies. Evidence against the measles, mumps and rubella (MMR) vaccine came from a study of 12 boys, 8 of whom appeared to develop autistic characteristics soon after vaccination. The research has proved unrepeatable, and in 2010 the Lancet retracted the paper in which the results had been published. Despite the retraction, some parents are still not vaccinating their children, thereby leaving them exposed to MMR.

The latest document from the Prime Minister’s Chief Science Advisor, Professor Sir Peter Gluckman, explains why the production of yet more evidence to assist with challenging questions doesn’t always create understanding.

Released this month, Sir Peter’s second paper on “Making decisions in the face of uncertainty” focusses on understanding risk. The paper is available on his website

(www.pmcса.govt.nz), and should be read by all who are perplexed, for whatever reason, not only about the debate on fluoride, but also on 1080, glyphosate, genetic engineering, vaccination, anthropogenic climate change and practically any other controversy requiring science. While scientists strive to make the facts clear by doing more research and gathering more evidence, the ‘anti’ become more entrenched. More evidence simply strengthens their conspiracy beliefs.

For society in general, psychologist Robert Cialdini’s book on ‘Influence – the psychology of persuasion’ has the explanation. We understand what we want to understand because it reinforces our belief that we are consistent and doing the right thing.

In some contrast, much of science is about challenging the status quo and questioning assumptions.

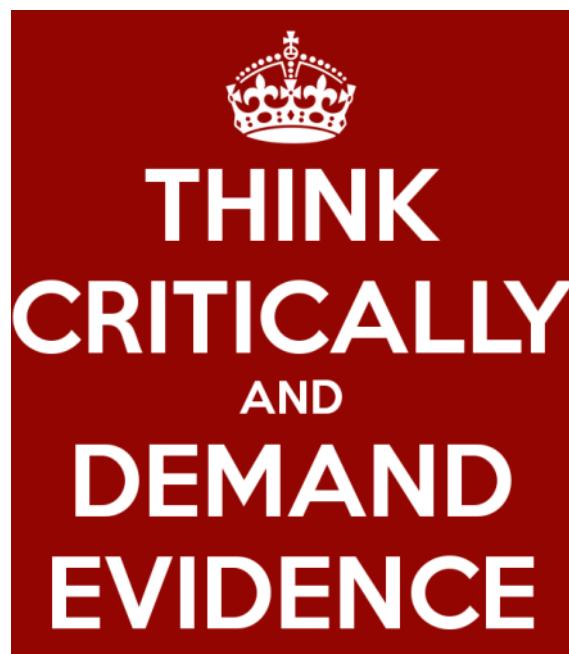
In response to the ‘smarty-pants’ statements, CEO of the Environmental Protection Authority Dr Allan Freeth said “Questioning and researching of topics and issues is healthy for a society and a necessary part of the development of knowledge as ideas are debated and tested. But, the fact is, in our modern and very complex world, we rely on the knowledge and views of experts and those people that have been called ‘smarty pants’”.

The work of the EPA includes evaluation of risks and benefits analysed by experts. The work of Sir Peter Gluckman is explaining how values are included in decisions.

The web doesn’t indicate whether Mr Smarty-pants did or didn’t fix the car, but it was apparent that the speaker couldn’t... which means that somebody with more expertise was needed...

Science has an important role to play in New Zealand; so does the psychology of influence.

NBR 9 Dec 2016



Having just returned from a two month house swap in a small village just on the northern edge of the Cotswolds, I thought that it would be worthwhile to share my observations and thoughts with the membership. These were gathered from many miles (yes they still have them, together with one and two pence coins) of walking over farms, conversations with fellow walkers, a half-day spent with a local mixed cropping/livestock farmer and the inevitable price comparisons in the supermarket.

The many of you who have spent time in England will be aware of the multitude of byways and footpaths that meander through the countryside and allow anyone to walk their paths. Farmers where these exist are obliged to leave a three yard grassed strip along the side of cultivated paddocks to facilitate this activity. On my first walk, I met up with a lady from the Village Parish Council who photographed the lack of this grassed strip on a footpath so that the farmer could be confronted with it (more of that later). By the way, the local soils around Banbury were formed from ironstone and had a distinctive red colour (I have correlated them to our classification system as Mafic Brown Soils? – correction is welcome).

As I walked these paths, I ran into very few farmers or farm workers. Deserted or rarely-used farmyards testified to the amalgamation of small farms that had gone on. Crops were invariably wheat or oilseed rape – I won the prize for the stupid question when I asked the farmer that I visited why was so much rape was being sown when it could not be grazed in situ during winter! But where else in the world would you suddenly come across a many century-old church or the elaborate stone entrance gate to a once-proud estate on your walks!

My farmer turned out to be a very efficient NZ-like one who by himself managed a relatively large area of about six hundred acres of mixed sheep, cattle and cropping. Even in October when the soil had not yet wetted-up and there

was still abundant grass, he still had many cattle housed and stated that they were easier to manage that way. Prices for lamb, beef and grain seemed to be similar to here with milk below the cost of production. Just as still exists here, there was a bias against dairy influence in beef breeds. Cropping rotations consisted of two years in wheat and oilseed rape followed by two years in pasture.

So to continue the urban (village)/rural rift story, it turned out that the farmer who had ploughed his field right up to the hedgerow was my man! The Parish Council lady's husband told me that he had been ordered to restore the walking strip. My response was "how – by bringing in artificial lawn"?

Food is currently cheap in Britain. Meat, even lamb, is no dearer than here – we bought two good-sized NZ lamb steaks for about four pounds. This may change with Brexit and the associated inflationary pressures. There appears to be no shortage of available food in the Western world.

I made the mistake of visiting Singapore (for the first time) before flying to Britain. As a well-known control freak, I was blown away with the ease of getting through the airport, the control of the number of cars on the roads, the cleanliness and their ability to build infrastructure like airports before they are needed. To me this was utopia and all done in 50 years. Then to where their one-time masters live. This was our fourth visit to the UK over 32 years and I could not help but notice the deteriorating roads outside the motorways, lack of cell phone coverage even close to London, the confusion around Brexit (a disaster for them in my opinion in light of the likely future protectionist mood) and the suffocating number of vehicles (22 million within an area the size of one of our islands).

Hopefully I am wrong about the future of the UK. But they say travel broadens the mind and being in one place long enough to suss out some of the undertones was certainly fascinating.

PROCEEDINGS 2016

The 2016 Timaru Proceedings have all been mailed out to members. This year I have had more than ever returned with incorrect postal addresses. If you have moved in the last 12 months and forgot to tell us it may be why you are

yet to receive your copy! If that's the case drop me an email with your new details and I can send it out.

