At the recent International Farm Management Association conference in Edinburgh I became critically aware of the differences between the research and directions we are taking in farm systems compared to the rest of the world. I have been aware of differences for some time, but this was more profound. This highlighted a fundamental difference between temperate intensive graziers (New Zealand, Australia and Ireland) and the rest of the world.

The conference covered many topics and had some insightful plenary presentations, but these did not extend the horizon of our thinking. Challenges expressed were the ones we have already identified, the solutions very standard. The demands of the consumer for ethically produced food, food safety, and reduced environmental footprint joined the concerns of a lack of new entrants and the potential disruptive effects of social media and digital technologies. All of these have been highlighted, and known by our industries for some time. That doesn’t mean to say we have done anything about it.

All too often over the past 10 years I have heard or read industry commentary that says we must be proactive in getting our story out there to ensure that the public understands us. The only campaign I have seen to support that is the Silver Fern Farms advertising campaign. While a great initiative, I am unsure how far it has been spread to ensure that our main body of consumers, those on the other side of the world, have connected with New Zealand as a source of high quality, ethically produced natural product.

The same can be said of new entrants. As an industry we have seen reducing investment in research, static university enrolments and a shortage of human capital in agriculture. Our answer is to import Philippine workers. While this may be a short term solution, we also must acknowledge that our farm systems are unique and require specialised skills to make them work effectively.

One highlight of the conference was an enthusiastic and successful Welshman extolling the audience to embrace the young, give them opportunities to develop capital in the industry and get them on the track to successful business models (not necessarily ownership) in farming. Interestingly, the couple that accompanied him had spent time in New Zealand. They had worked on dairy farms here, and understood the share milking and contract milking approaches that we use for new entrants. The approach he was proposing/implementing was one very similar to ours, and was enough to lure them back to the UK. Our challenge is to further extend that type of model to our sheep and beef sector, rather than creating new models. The proviso is to ensure that the red meat sector is profitable enough to implement that type of approach, and to change our cultural outlook to encompass greater flexibility of the family farm model.

To me, the conference also highlighted that our current work on legume systems, and farm systems in general, is world leading with no other organisation working in this area at the scale, the thinking, or the approaches that we are doing.

Key to this is the depth of understanding that the New Zealand farming industry has of basic principles of grazing management. We are fortunate to have had early understanding of and access to key nutrients (mainly P and S) that drove legume performance, fixed naturally occurring nitrogen from the atmosphere and grew our farming business. Being at significant arms length and distance from the emerging nitrogen fertiliser industry (and as an economy that had little energy to spare until the Think Big projects of the 1980s) we were spared the temptation of going straight to N from the bag. This has led to the very unique situation that is the New Zealand farming system. It has also put us in the position that nobody understands us. When we talk about legume forage systems then we are even further away from their reality and their capacity to understand. This gives us a very unique and critically significant advantage as we look for competitive advantage in a more demanding world.

This is not to say that we can’t improve this. The recent emergence of the ‘regenerative farming’ lobby highlights that while our farmers use the tools, they have a relatively intuitive, rather than knowledge based, understanding of what they do. The plastic nature of the New Zealand envi-
Environment has allowed farmers to implement grazing strategies that, while maintaining profitability, do not capture the full benefits that are available from their pasture if grazing management is optimised. This also leads to more potential ‘leakage’ from the system in the forms of nutrient and sediment loss. Research during the decades of the 50’s, 60’s, 70’s and 80’s provided a broad based of understanding for our graziers to improve grazing management and whole farm performance. More recent research in the P21 programme has added further to this knowledge and provides a significant arsenal of practices to enhance our profitability and environmental practices.

The development of the first principles of growth of lucerne and their conversion into grazing systems to capture the benefits of increased water use efficiency and improved animal performance has led the way to identifying the next step in increasing our farming efficiency; that of grazing legume systems. Our history of grazing management, and our understanding of legumes for nitrogen fixation provides us with a starting point, but much research is required to ensure that we capture those benefits through understanding the first principles of growth and management, as well as understanding how to build grazing systems around the range of different legume types.

This legume-based future will keep us at the forefront of production of red meat from grazing systems. However, we need to actually act on the threats that face our farmers through social media and consumer preference. Without action on both fronts the production of red meat, and potentially dairy products, as a key part of the New Zealand economy is under threat. We need to remind our public and our consumers of the low footprint, resilient pathway we have already chosen. We also need to be able to support our choices and the outcomes from those choices with good science.

**Ross White - NZGA Executive Officer 2005 - 2009**

Our thoughts are with the White family as we note the passing of Ross White. Ross joined the New Zealand Grassland Association as its first full time Executive Officer in 2005 following on from Mick Calder. The role had been founded during the leadership of Colin Brown and Richard Green in response to an ever-increasing demand on the Association for professionalism from a growing membership.

Ross had a wide and varied career in marketing and management before joining us. He was an articulate, professional advocate for the Association, maintaining the running of the Association through his experiences as a lawyer. His tenure as our Executive Officer was cut short by the illness that finally took his life. An escalation of his Parkinson’s Disease symptoms led to his withdrawal from the position of Executive Officer in early 2009, and unfortunately, this was to be his last full time role. He assisted in the transition like the gentleman he was and supported Marie with settling into the role. Many will remember Ross and his wife Marian at conferences and will join us in remembering Ross and his contribution to taking the Association into a new phase of its history.

**Environmental Protection Agency - use of paraquat/diquat in agriculture**

We have recently become aware that the EPA intends to reassess paraquat and diquat – which are two very common actives in a range of herbicides used in the arable industry and for aquatic weed control.

The Environmental Protection Authority is “seeking information about the composition, use and benefits of using herbicides containing paraquat, to help it develop an application for a reassessment of the approvals and controls applying to paraquat and paraquat-containing substances.”

The link and more information is available here: [www.epa.govt.nz/consultations/hazardous-substances/Pages/Paraquat_call_for_information.aspx](http://www.epa.govt.nz/consultations/hazardous-substances/Pages/Paraquat_call_for_information.aspx)

Interested parties can submit to the EPA regarding use of these chemicals.

Submissions are due by 04 September.
Finding the optimal solution requires asking the right question

Jacqueline Rowarth, Chief Scientist, Environmental Protection Authority

The role of the primary sector in supporting the export economy without depleting the environment is high on New Zealand’s agenda. Various solutions, ranging from organics and regenerative agriculture to genetic engineering and synthetic food, have been proposed, but debate continues. Part of the challenge is that research that gives insight for the future is difficult to do. Part is that many of the ‘solutions’ boil down to more or less of Business as Usual: fewer cows, better grasses, more vegans.... All so-called solutions might have unintended consequences such as reduced food yields and more greenhouse gas production. But picking a solution and working towards proving its worth is classic in problem solving. In an online Harvard Business Review article in June this year, Professor of Psychology and Marketing at the University of Texas, Art Markham, explained that human memory is set up in a way that encountering a piece of information serves as a cue to retrieve other related things. As a result, creative solutions mostly come out of the experiences in the collective memory of the group focussing on the problem.

Using the example of the vacuum cleaner, Professor Markham proposed that thinking about vacuum cleaner bags did not create the cyclone vacuum cleaner. Instead, James Dyson, frequently seen on television promoting his innovations, focussed on the problem of carpet and floor cleaning, and how to improve the process. The result was a modification of industrial cyclone technology which created a new paradigm for vacuuming.

In considerable contrast, most people trying to improve vacuuming technology have identified a new combinations of bags and filters; the number of patents and physical varieties on the market is the evidence.

Professor Markham’s thesis is that how you define a problem determines whether you solve it. “An alternative way to describe the problem is that a vacuum takes in a combination of dirt and air and has to separate the dirt from the air. Bags do this by acting as a filter that traps the dirt and lets the air pass through pores in the bag... Industrial cyclones create a spinning mass of air that throws particles to the edges by centrifugal force”.

Professor Markham’s suggestion for better problem solving is to generalise a problem by removing some of the specific components typically used to solve it. “When you focus on the bag, you’ll naturally be reminded of aspects of bags,” he says. In order to generate new solutions, we need to change the description of the problem in such a way that results in new information being drawn from the memory.

This thinking can be applied to New Zealand’s current production-protection conundrum. Concerns about water quality have led to suggestions that the number of dairy cows should be reduced.

A focus on ‘natural means genetic engineering can be explored only in high containment facilities.

Beliefs about 1080 have resulted in calls to ban its use.

In all three examples, focussing on a particular solution without understanding the issues and perspectives behind the problem, could lead ‘up the garden path’... to unexpected outcomes.

Professor Tony Parsons, Massey University, has spent his working life building from first principles. “If you don’t identify the actual problem correctly,” he said, “chances of finding a real solution are slim. Once you have identified the problem, you must consider all the issues and perspectives that surround it.”

“The next step is to examine alternatives, evaluate trade-offs, analyse all interests carefully, consider any weightings, identify the optimal value and make a decision.” Professor Parsons is clear that compromises will almost certainly have to be made, but that the final decision will result in the most general good overall.

This is a net benefit approach.

The Environmental Protection Authority (EPA) takes a similar net benefit approach focussed on the evidence provided by research and science; if the risks appear to outweigh the benefits in an application, approval for a new chemical or organism, or development plan, is not given. Social and cultural components are also part of the process. Increasingly challenging is that the EPA is being asked to deliver decisions on new organisms (genetically engineered, for instance) for which the research has not been done. This also applies to the effect of new chemicals on indigenous species.

In decisions where there is uncertainty, society is increasingly becoming involved and the public are having an input. In this context, the certain/low risk environment traditionally inhabited by science and research has moved to ‘post normal science’ and on through alternative facts into the Twitter-sphere. This change has moved various bodies, including EPA and the Ministry for Primary Industries into more risk analysis in an attempt to improve outcomes of the decision-making process; net benefit is always the goal – finding the path for protecting the environment while enhancing the New Zealand lifestyle and economy for the future.

For Professor Parsons, the net benefit in his work is identifying how pastoral New Zealand can produce most protein per hectare for least environmental impact; that is not just reduced nitrate release to waterways, but reduced greenhouse gas emissions (methane and nitrous oxide) and sustained if not increased carbon sequestration.

Professor Parsons works from first principles of photosynthesis (carbon capture by plants), and the fate of carbon and nitrogen in plants, animals and soils. Using this approach it is clear that land managed effectively for milk production can produce far more food (protein for human consumption and sale) per hectare, than the same area of land managed using the same inputs of nitrogen and water with dry stock for meat production.

“Per unit of nitrogen inputs per hectare, lactating animals deliver more protein nitrogen in products, and so release lower amounts of nitrogen to the environment than...
Getting more from using your Smart Phone

Beef + Lamb New Zealand Podcasts – the latest and greatest way to get information - Aaron Meikle

If you aren’t already subscribed to B+LNZ’s podcasts, why not? Since they launched last year, there have been over 11500 downloads from the channel, and these are now the single most popular of our information resources.

The information is ready when you are, covers specific topics in depth, lets you hear directly from the subject matter experts when you need to, and can be used while you drive, cook tea or dag lambs, for example. One Farm Consultant has his discussion group members listen to the relevant podcast as they drive to the group day, to prepare for the day’s discussion.

23 Podcasts up already, more added every month at least.

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You can listen directly from that website with any device, but we recommend subscribing through a podcast app so you get notified when new talks are posted and have a better listening experience. For some guidance on how to do all that, check out the User Guide on B+LNZ’s website “Getting Started with Podcasts”.

Health Apps— one for you and one for your plants

Firstcheck - An App for helping Melanoma and Skin cancer detection. NZ has the highest rate of skin cancer in the world. Only about 4% of us are checked regularly. Now using your smartphone you can access skin specialists — download the App for free (Firstcheck), register, take photos of any skin concerns using your phones camera, chose a specialist, pay $19.95 and send.

CheckIT

This is a diagnostic tool, with lots of images, to enable growers to identify nutrient problems in crops such as cereal, Lucerne, grass and brassicas.

Whanganui Conference

Get ready for Whanganui, November 7-9.

The Whanganui Local Organising Committee, ably led by Clare Johnston have put together a great set of field days. Both productivity and sustainability will dominate trips to our national Farmer Council chairman’s property at Mangara, to Rathmoy, a long standing example of farming excellence in hill country, and the O’Briens, a talking point for sustainable dairying.

The team are working with Warren King of the National Executive towards introducing an extended presentation and discussion forum to increase our interactions at the conference. The two topics for the forum are Hill Country Development, and Dairy Farming Sustainability. Both of these issues will face the challenge that increasing intensification presents to our agricultural industries, and link with field day themes.

Topics for papers range from dairy cows to dairy sheep; intensive ryegrass production to managing hill country browntop; pasture virus loads to slow release fertiliser and fatty acid composition of milk. Truly something for everyone.

Welcome along to all, and remember, Tatou tatou, we are here to share.

NZGA Administration

Membership dues - these remain the same good value as for the last 10 years at $85 for a NZ membership.

It’s that time of year again so watch your inbox for this years membership invoice. You can pay online through the website - (Pay membership).

We still have quite a few members with arrears so those members will also receive a statement showing the full amount due. Those who are 2 years in arrears have been removed as members.