



# Fertiliser Matters

New Zealand Fertiliser Manufacturers' Research Association Newsletter

## External auditing of nutrient budgets adds integrity to practice



*The fertiliser industry has taken the integrity of the nutrient budgets its members prepare for farmers to a new level.*

**The industry has let a contract to external consultants to audit the nutrient budgets prepared by the nutrient advisers fertiliser co-operatives employ. In broad terms the audits ensure the data input to the Overseer® computer model is done in a reliable and consistent way nationally, and that confidence can be placed in the output in the form of nutrient budgets.**

The appointment of external auditors closes the integrity loop around nutrient budgets. It gives confidence to farmers that the money they are spending on nutrients will deliver their production and sustainability goals, and third parties that environmental considerations are being fed into decision making.

The engine room of nutrient budgets remains Overseer, which is jointly owned by MAF, AgResearch and Fert Research.

To ensure its nutrient advisers are fully conversant with issues such as the science and research behind Overseer; production and environmental considerations in terms of land management; functioning of agricultural systems and the practical use of the Overseer model, the industry has developed a comprehensive training programme which includes post graduate courses in sustainable nutrient management, taught in co-operation with Massey University. To complete the full training programme and acquire the skills to confidently apply the knowledge to move from nutrient budgets to nutrient management plans takes between 18 months and two years.

All company nutrient advisers are required to achieve course accreditation, and they apply this knowledge when developing nutrient budgets.

The member companies of Fert Research also undertake extensive internal auditing of the nutrient budgets prepared by their staff, and the quality assurance programmes they have in place to manage this task have also been vetted by external auditors.

Virtually all New Zealand dairy farmers operate nutrient budgets, and fertiliser companies are now working with the meat and wool sector to extend nutrient budgets to their farmers.

inside

MELBOURNE HOSTS FERTILISER EXPERTS | FERTILISER USE DECLINE | EXTERNAL AUDITING FOR NUTRIENT BUDGETS



# editorial

by Dr Hilton Furness – TECHNICAL DIRECTOR

## Achieving water quality management while avoiding polarisation and confrontation

The Ministry for the Environment's proposed national policy statement covering freshwater management\* needs a considered, holistic response.

Colloquially, a term used to describe the overall goals of this discussion document is that our freshwater should be 'swimmable and fishable'.

The 'swimmable' criteria in the main relates to managing disease causing bacteria from human and animal waste that might enter waterways, directly or through run off. Measuring bacterial counts in water is a relatively easy task, and there is a clear understanding of where the tipping point is in terms of what is and is not acceptable.

However, the 'fishable' criteria is far more complex and difficult to manage.

Officially, fishable is described as 'protecting life supporting capacity and ecological values' and covers the whole range of aquatic life.

However, it is not until you delve into what this 'fishable' criteria may mean in reality, that the potential enormity of this challenge becomes apparent.

Unlike a New Zealand wide measurement for bacterial counts, it is impossible to develop one national 'fishable' measure for all rivers in all regions. In practice every catchment or stream requires a different measure to accommodate the particular aquatic life of that catchment or stream.

There is a need to initially agree on a start point for setting criteria for a catchment or river – what is there now, or used to be there, or what we feel should be there!

Fert Research is not disputing the need to manage the quality of our water, or that there needs to be an improvement in water quality. We are committed to contributing to the process.

However, what also needs to be accepted are

- Individual criteria need to reflect site specific issues and the use of water
- It is not practical to have one criteria for the entire country that is based on the needs of a specific catchment such as Lake Taupo. It would undermine the viability of agriculture and the national economy
- Agriculture systems are biological systems, and all biological systems leak nutrients. It is possible to reduce and manage nutrient loss, but it is not possible to prevent all leakage of nutrients from a biological system.
- Science does not know what the theoretical minimal leakage is from agricultural systems that allows these systems to remain economically viable, although anecdotal data says we are probably not at this point yet. So we do not know if it is possible to reach the minimal level while it is still commercially viable to farm
- More importantly, we do not know that if the minimum leakage from any system is achieved, it would meet the fishable requirement.

The MfE's discussion document makes it clear that the policy statement is not designed to set rules or standards for managing fresh water. Setting those will be left to regional councils.

How can agricultural or the wider New Zealand community, considering the dependence of the economy on agriculture, in all honesty say it buys

into the policy if, in achieving the principles, it means farming is made commercially impossible?

In terms of 'fishable', before agriculture signs up to the policy there should first be an informed debate on what are the community's expectations, whether agriculture can meet these expectations and what will be the social as well as economic cost of meeting them.

The options include:

- agriculture finding it physically impossible to meet the requirements
- agriculture saying the cost of meeting them is commercially too high
- the community accepting the economic cost is too high, and that the standards need to be changed
- the community accepting the adverse economic consequences and saying land users need to comply.

Perhaps the best consultation approach for the MfE's policy statement on water quality would be to adopt the 'collaborative governance' approach of Nordic countries suggested by guest columnist Guy Salmon in his article Collaborative governance – could it make a difference in New Zealand? in the December 2008 edition of Fert Matters.

In this case, consulting on the principles of a systems approach in isolation, and leaving each regional council to set its own rules and standards using the principles as a guiding document, has the potential to have a massive negative flow on effect on agriculture and economically on the wider community while fostering polarisation and confrontation.

*\*Finding the Balance: Managing Freshwater in New Zealand, MfE, July 2008*



## Viewpoints...

*Fertiliser use is the key to feeding people around the world, with 'almost half the world's population depending on nutrition from mineral fertilisers'*

**Tor Holba, President, European Fertiliser Manufacturers' Association, February 2009**

*Farmers should stick with ethical and independently audited fertilisers. It is no use applying anything to soil that does not have a label explaining exactly what is in the bag or in the bin. To claim it is 'natural, organic or good for the soil' is totally inadequate.*

**Kevin Geddes, Executive Director, Fertiliser Quality Council, February 2009**

*Global wheat exports are 50% higher in El Nino years than in the El Nina years.*

**Dr Mark Howden, Climate Change Specialist, CSIRO, December 2008**

*The two key factors that will affect global food prices in 2009 are farmers accessing credit to purchase agricultural inputs, including fertiliser, and the low levels of world grain supplies, in spite of two good harvests in 2007 and 2008.*

**International Fertiliser Industry Association, November 2008**



# Further call for collaborative governance

Yet another party recommending 'collaborative governance' as a way through the complex issue of managing water resources is Professor Neil Gunningham from the Australian National University, Canberra, in a report he prepared for Landcare Research on finding solutions to Canterbury's water management difficulties.

The report found that neither of the principal options through which water can be allocated under the RMA – regional plans and consents – was capable of effectively constraining water take off or ensuring allocation to its highest value use.

He suggests neither hierarchy (command and control regulation) or markets (water trading and incentives) offer complete

solutions. Instead, he suggests a collaborative governance approach, which involves private, public and government stakeholders acting together towards commonly agreed goals, seeking to achieve more collectively than individually.

Landcare Research's Bob Frame (Principal Scientist, Sustainability and Society), said there was no ideal solution, and that trade offs between different options was unrealistic.

"What we have to look for is hybrid ways that will require collaboration across a representative range of viewpoints.

"It will involve people with widely differing views sitting down together and working out what compromises are acceptable."

The full report can be found at [www.landcareresearch.co.nz/research/programme\\_pubs.asp?Proj\\_Collab\\_ID=94](http://www.landcareresearch.co.nz/research/programme_pubs.asp?Proj_Collab_ID=94)

*Note: In the December issue of Fert Matters we published an article by guest columnist Guy Salmon advocating 'collaborative governance'. See also the Editorial in this edition entitled Achieving water quality principles could undermine commercial viability of farming, page 2.*

# Decline in fertiliser use continues

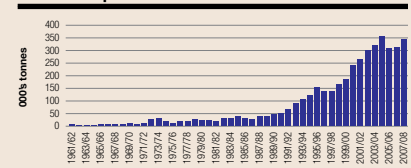
The combined tonnage of the three main nutrients applied to New Zealand farmland in the 2007/2008 season continued the downward trend evident from peak usage in 2004/2005.

Phosphate use, at 175,000 tonnes, was at its lowest level for eight years, potassium use at 113,000 tonnes its lowest level in six years, and nitrogen use at 350,000 tonnes was marginally below its all time highest consumption level recorded in 2003/04.

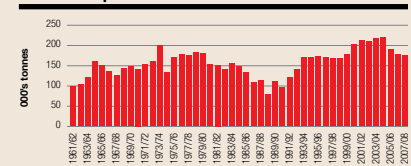
Although the all time high prices for fertilisers contributed to lower use over the past 12 months, the move to lower usage was well established before international prices increased significantly.

This information, and other current updates on fertiliser, and the fertiliser industry, are contained in Fert Research's 2009 Annual Update (covering the 2007/08 season) published on our web site [www.fertresearch.org.nz](http://www.fertresearch.org.nz).

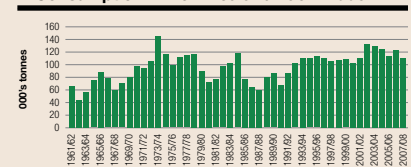
**N Consumption in New Zealand 1961–2008**



**P Consumption in New Zealand 1961–2008**



**K Consumption in New Zealand 1961–2008**



# World fertiliser leaders gather in Melbourne

*In mid-December, the leaders of the world's fertiliser industry gathered in Melbourne to focus attention on nutrient use and food production in the Asia Pacific region.*



*Food production in the Asia Pacific region the focus of debate by world's leading fertiliser experts*

It is a little realised fact that Asia consumes more than half of all the fertilisers used globally.

The keynote address at the conference was given by Dr Mark Howden, an expert in the area of climate change and agriculture, who works for Australia's Commonwealth Scientific and Industrial Research Organisation.

His paper reviewed possible changes that might need to be made to farming practices in the Asia-Pacific region to combat climate change.

Points he made included

- Global grain consumption is projected to double within 40 years, and much of the farm expansion to meet this will be in the Asia Pacific region
- Climate change is likely to reduce grain yield in tropical and subtropical regions, and regions with 'Mediterranean' climates
- Even with farming practice adapting to climate change, the world's population

will be exposed to a greater risk of hunger as a result of that change

- Past analysis of global food security may have 'significantly understated' the challenges arising from the impact of climate change.

Early in the year, the fertiliser industry met in Odessa in the Ukraine to discuss climate change.

Comments at this meeting included

- The volume of gas used in global fertiliser production is substantially less than that flared into the atmosphere in oil production
- UK research shows that 8KJ of energy used in making, transporting and spreading fertiliser bring a 55KJ return per hectare – equivalent to about 3.5 tonnes of wheat
- Averaged over main European crops, organic farming yields about one third less produce than fertilised crops
- Fertiliser use accounts for more than 40 percent of world protein production.

## Restructuring for company growth

With the marked increase in activity at Fert Research, we have introduced the role of Office Manager to assist in our day-to-day operations and we welcome Tania Smith to this position.

Tania joins us after returning from a stint in England, where she worked as office manager for the Association of Licensed Multiple Retailers. Tania has taken over the accounting and administrative functions and also takes care of the flow of information through reception as well as fielding all website inquiries. Tania's appointment brings Fert Research's complement of staff to three, the others being Technical Director Hilton Furness and Technical Manager, Greg Sneath.



New Zealand Fertiliser Manufacturers' Research Association  
Suite F Building E, 42 Tawa Drive, Albany 1331, New Zealand  
Telephone 09 415 1357 Facsimile 09 415 1359 Email [info@fertresearch.org.nz](mailto:info@fertresearch.org.nz)  
[www.fertresearch.org.nz](http://www.fertresearch.org.nz)

THE CONTENT OF FERTILISER MATTERS IS COPYRIGHT TO FERT RESEARCH. THE CONTENTS MAY BE FREELY USED PROVIDED ACKNOWLEDGEMENT IS GIVEN TO: FERT RESEARCH'S FERTILISER MATTERS