



Fertiliser Matters

New Zealand Fertiliser Manufacturers' Research Association Newsletter

Roadshows bringing nutrient budgeting to your doorstep

The Fonterra and Dexcel nutrient management roadshows are 'making dollars and sense of nutrient management' for farmers around New Zealand in March. With fertiliser a considerable on-farm cost it is important to get the best return on your investment. As well as protecting the environment and ensuring you can farm for years to come, sound nutrient management is also good financial practice. Think of a nutrient budget like a financial budget – you know what you are earning (income) and what you are spending (costs) and where you can find efficiencies and save.

As part of a nutrient management plan, a nutrient budget helps paint a comprehensive picture of nutrient use. Fert Research has promoted nutrient budgeting for many years and the tool used by field staff, OVERSEER®, was developed for nutrient budget planning.

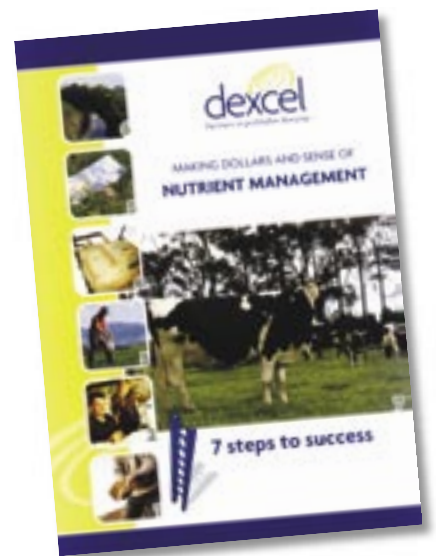
Used in conjunction with a site-specific nutrient management plan, Overseer can provide information to help you compare management systems to use nutrients more efficiently and gain maximum value from your fertiliser investment.



Its approach is not individual to the farm, but uses annual averages and 'typical' situations such as major soil types, regional conditions and common farm situations. This enables the software to provide broad based information. Its development is based on the latest research and the model is regularly updated. Overseer is available to farmers free of charge.

Another management tool for farmers working with field reps on nutrient management planning is the training each field rep undergoes. Through Massey University every field officer at Ballance Agri-Nutrients and Ravensdown Fertiliser Co-operative undertakes a postgraduate level short course in Sustainable Nutrient Management.

The nutrient budgeting workshops emerged as a result of a research project that was funded by the MAF Sustainable Farming Fund, Fert Research, Dairy InSight, Fonterra and Summit Quinphos. With input from Fert Research's member company field staff, the on-farm field days are practical, hands-on



and have been localised, so the topics are highly relevant to attendees.

A booklet covering the "7 steps to nutrient management success" is available from Dexcel, visit www.dexcel.co.nz. See page 3 for information about Overseer in action.

Fertiliser Matters is a quarterly publication produced by Fert Research.

Each year a special farmer focussed issue is distributed.

If you would like to be added to the mailing list for all issues of *Fertiliser Matters* email: info@fertresearch.org.nz with your contact details.

editorial



by Dr Hilton Furness
Technical Director

Working behind the scenes on behalf of farmers

The Chairman of Dairy Farmers of New Zealand, Frank Brenmuhl, is right to draw attention to the pressure being placed on dairy farmers by central and local government.

Even a cursory review of the range of new measures being considered by the Ministry for the Environment, Ministry of Agriculture & Forestry, New Zealand Food Safety Authority, Environmental Risk Management Authority, and Regional Councils under their planning mandates is enough to convince anyone that his comments are valid.

As the representative body of the fertiliser industry, Fert Research has been working behind the scenes for many years trying to bring pragmatic balance to the needs of farmers to operate economically successful businesses while farming in an environmentally sustainable way.

Our Association's activities can be grouped into five broad areas

- working with central and regional government decision makers
- liaising with other farmer organisations such as Fonterra to ensure the wider farming community is aware of developments with the potential to impact on farmers
- monitoring overseas developments that might flow into New Zealand and participating in international forums to ensure New Zealand's perspective is voiced
- funding New Zealand-specific nutrient research that will assist farmers to achieve greater productivity and
- producing the management tools to assist farmers to be more productive and even better stewards of the land.

During the past few years the Association has sat on more than 20 central government boards and working groups that have been reviewing rules, regulations, procedures and standards that one day will, or might have already had, a direct impact on farmers.

Each year the Association spends more than \$1 million on New Zealand research funding deepening our understanding of the relationship between nutrients, the soil and plant growth. When the research undertaken by our two members is included, the fertiliser industry's investment increases to about \$5 million a year.

The bottom line for us and our member co-operatives (Ballance and Ravensdown) with research is to assist farmers achieve, for the same, or even reduced, fertiliser levels, higher food production and profitability coupled with wealth for all New Zealanders.

Much of that research has resulted in pragmatic tools that are increasingly being used by farmers on a daily basis, often in association with our members' technical field staff and other consultants. These include methods of developing nutrient budgets and nutrient management plans, which ultimately lead to farmers achieving greater returns from their investment in fertiliser.

The position we have always taken is that the growth of environmental constraints on the farming community is inevitable. We believe it is more productive to engage in dialogue with decision makers to ensure that wherever possible we can help shape change to reflect farmers' interests, rather than to oppose change, with farmers perhaps having far more draconian measures imposed on them.

Farmers.

In milking sheds around the country the profile of nutrient budgeting is on the rise. Farmers are increasingly being exposed to the concepts of nutrient budgeting. Although few are currently using the system, it does offer opportunities as the following interviews with dairy farmers show. Nutrient budgets and nutrient management plans act as farm management tools by demonstrating how efficiently nutrients are being used and what effect changes in the farming system would have on nutrient capture and loss. Developing a nutrient budget involves identifying nutrient inputs (eg, fertiliser, rainfall, irrigation, nitrogen fixation and supplements) and outputs (eg, product, transfer, gaseous nitrogen loss, leaching/run off and immobilisation) with the aim of minimising losses and maximising uptake. OVERSEER® is a nutrient budgeting software programme freely available to farmers. We talked with two farmers about their experiences with nutrient budgeting:



Sold on nutrient budgeting benefits

Dave Bennett

WALTON DAIRY FARMER

What are your farm details?

We are dairy farmers, milking at peak 900 cows with split calving (300 autumn and 600 spring). The farm is on target to produce 500,000kgs milk solids per annum. The surveyed farm area is 232ha of which 175ha is milking platform, 20ha grows maize for silage, 9ha grows Lucerne for silage and 10ha is used for young stock grazing.

When did you first hear about the concept of nutrient budgeting?

4 years ago.

How easy did you find the concept of nutrient budgeting to understand?

It was quite complicated to understand at first, until I sat down with my field rep (Arthur Payze from Ravensdown) and talked through it.

When did you first do a nutrient budget for your farm?

Three years ago.

What, if any, nutrient budgeting tool did you use?

Overseer.

Were you assisted in this by your fertiliser field rep?

Yes. He collected all of the necessary input information such as cow numbers, fertiliser use, supplements fed and together we worked out the effluent area required.

Was it part of an overall Nutrient Management Plan?

Yes. Now the area exposed to effluent receives no solid fertiliser or urea, and what fertiliser is applied to the rest of the farm, is flown on using GPS. We actually produce enough effluent to supply the whole farm and once we get the piping in place we hope to move to this soon. After that we intend to monitor fertiliser needs each year, but expect to apply very little.

Did you find it easy or difficult to complete?

It wasn't easy, but the support of a good field rep was essential. It was a steep learning curve to go through the process, but all farmers need to go through this to ensure a sustainable future.

Have you noticed any benefits from implementing a nutrient budget yet?

Yes – we are saving a lot of money by not putting solid fertiliser on half of the farm. We were nervous at first about whether we might still need the same level of fertiliser, but we have completed soil tests each year and we don't need to apply more at the moment. This has made the whole concept more believable for us.

It has been more useful for us, because we rely on supplementary feeding, than it may be for other purely pastoral farmers, due to the extra nutrient inputs from supplement.

Having said that, it saved us money. There was an initial capital outlay which took a few years to get into place, but we are very happy with the profitability of the farm.

Would you encourage other farmers to do a nutrient budget?

Most definitely. Nutrient budgeting is the way to go. It was a real eye-opening experience for us to find out the value of the effluent, and to contribute to future sustainability. If managed properly, farming needn't impact negatively on the environment.

Hans Fikken – Clearview Dairies Ltd

DUNSANDEL DAIRY FARMER

What are your farm details?

The farm is 366ha of irrigated dairy platform. We milk 1200 cows for spring calving and 300 cows for autumn calving. We produce 1780kgs milk solids per hectare.

When did you first hear about the concept of nutrient budgeting?

A long time ago. I am from Holland, where nutrient budgeting is commonplace, so I brought that background with me to New Zealand.

How easy did you find the concept of nutrient budgeting to understand?

I think the concept is quite simple – it just forces you to think clearly about farm inputs and outputs, which is very sensible. It makes particular sense when you use a lot of supplementary feeding on a farm, as we do.

When did you first do a nutrient budget for your farm?

This spring we implemented it for the first time.

What, if any, nutrient budgeting tool did you use?

Overseer.

Were you assisted in this by your fertiliser field rep?

Yes. I provided our Ballance field rep with the input and output figures and he took me through the process using the Overseer programme. We also consulted an independent fertiliser rep who went through the Overseer programme with us.

Was it part of an overall Nutrient Management Plan?

Yes. We are working towards a far more sustainable farm in the future, to save significant costs on fertiliser inputs.

Did you find it easy or difficult to complete?

It wasn't difficult at all – it made good practical and economic sense. There is some initial capital outlay with extending the effluent areas (we now cover 60ha around each of our two milking sheds), but this is not a significant cost in the long term.

Have you noticed any benefits from implementing a nutrient budget yet?

Not yet, having just implemented the first budget this Spring, however we do expect to start seeing an impact soon. Already in the areas where effluent is used we will not have to add extra potassium fertiliser and we expect to cut down significantly on other specific nutrient applications in the longer term.

Would you encourage other farmers to use one?

Yes, for sure. This is a key part of the future and I believe that all farmers will eventually have to have nutrient budgets anyway, so why not get in now to start making savings as early as possible?

Overseer can be downloaded from
www.agresearch.co.nz/overseerweb

New resources available

Fert Research is involved in a project entitled The Wise Use of N-Fertilisers on Hill Country Pastures. This is a long term project, supported by the Sustainable Farming Fund and managed by a steering committee of industry, research and government representatives. It involves 14 focus farms across New Zealand plus two AgResearch farms to assess environmental impacts of N-Fertiliser use. While the final results of the research are not expected for some time, three fact sheets were recently released from the project team, outlining many frequently asked questions on the issues being covered by the research.

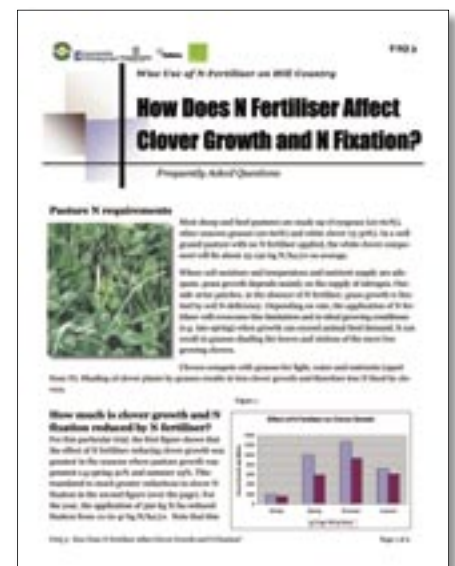
FACT SHEET ONE, entitled *What is Best Management Practice for N Fertiliser Use?* contains information based on the most recent scientific knowledge, to ensure the most profitable use of expensive nutrients, including minimising potential 'leakages' of nutrients outside the farm boundary.

FACT SHEET TWO, entitled *How Does N Fertiliser Affect Soil pH?* provides useful information on soil acidity and implications for plant growth.

FACT SHEET THREE, entitled *How Does N Fertiliser Affect Clover Growth and*

N Fixation? also provides many answers to frequently asked questions on this topic for a variety of different land types.

Visit the project website at: www.wisenuse.co.nz for the fact sheets and more information on the project.



New Code of Practice underway

The Code of Practice for Fertiliser Use was first produced in 1997 and updated in 2002. It is now under extensive review to take into account new issues around fertiliser use and nutrient management. This includes the increasing requirement for producing nutrient budgets (Environment Waikato, Fonterra) and nutrient management plans (Environment Canterbury, Environment BOP, Fonterra), limits on nutrient loss from catchments (Lake Taupo, Rotorua Lakes) and new technologies (for example, nitrification inhibitors).

The new Code will consist of two main sections:

- Nutrient Management Plans (incorporating most of the new additions)
- Practical issues of fertiliser storage, handling, use and application (incorporating much of the original Code but with updated fact sheets and some new information on inhibitors, nutrient capping and land use capability).

The revised version will be released later this year.



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