

NEW ZEALAND FERTILISER MANUFACTURERS' RESEARCH ASSOCIATION  
STATEMENT OF EVIDENCE TO PRESENT TO  
THE WATER HEARING FOR  
HORIZONS PROPOSED ONE PLAN

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TO : Hearings Administrator  
Horizons Regional Council  
Regional House Palmerston North  
11-15 Victoria Ave  
Private Bag 11025  
Manawatu Mail Centre  
Palmerston North 4442

EVIDENCE TO BE PRESENTED TO THE WATER HEARING ON THE PROPOSED ONE PLAN  
RELATING TO WATER QUALITY, FARM STRATEGY AND GROUNDWATER

Submitting Organisation's Details-

Name of the Organisation : New Zealand Fertiliser Manufacturers' Research  
Assoc. Inc

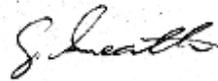
Industry Area: Agriculture / Fertiliser Industry

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Fert Research would be prepared to engage in pre-hearing consultations.

Signed



Greg Sneath  
Technical Manager  
For and on behalf of ;  
New Zealand Manufacturers' Research Association

Dated: 28 September 2009

## **Introduction**

The following discussion points are presented in preparation for the Water Hearing, in particular Chapters 6 and 13. The evidence is presented on behalf of the New Zealand Fertiliser Manufacturers' Research Association Inc. to Horizons Regional Council on the Proposed One Plan.

The New Zealand Fertiliser Manufacturers' Research Association (NZFMRA) is a trade organisation representing the New Zealand manufacturers of superphosphate fertiliser. The Association also operates under the name Fert Research. The Association has two member companies – Ballance Agri-Nutrients Ltd and Ravensdown Fertiliser Co-operative Ltd. Both these companies are farmer co-operatives with some 43 000 farmer shareholders. Between them these companies supply over 90% of all fertiliser used in New Zealand. The companies each employ about 60 field representatives whose function is to provide fertiliser advice and recommendations for farmer shareholders. Field staff are tertiary qualified and use a range of tools, including nutrient budget models, The Code of Practice for Nutrient Management and the Code of Practice for the Placement of Fertiliser in New Zealand, to assist them in making fertiliser recommendations and addressing production and environmental issues. The industry supports the Fertmark quality assurance scheme, and also supports an extensive research effort so as to remain at the forefront of efficient and effective nutrient use. The industry funded the development of the Sustainable Nutrient Management short courses at Massey University, and these are mandatory components of the industry training and accreditation of staff of our member companies.

The mission of Fert Research is to promote and encourage responsible fertiliser use, so as to maximise benefits to the agricultural industry in particular and the New Zealand community in general while, with due regard for the environment, maintaining a sustainable approach to agricultural land use.

As farmer owned co-operatives it is in the interests of the member companies to promote the best possible farm management practices to ensure long term viability, and sustainable land management for social, economic and environmental protection, in the interests of farmer shareholders and all New Zealanders.

Of the issues raised in the One Plan, the Fert Research submissions relate mostly to consideration of policies and practices relating to water quality issues relative to fertiliser use and application.

## **Discussion**

This evidence addresses the comments and issues raised in relation to the Fert Research submission on the One Plan in the “Planning Evidence and Recommendations Report” , by Horizon’s senior consultant planners.

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### **Item 1. - Nutrient Management as a ‘permitted activity ‘**

Extract from “*Planning Evidence and Recommendations Report*”

*4.29 Chapter 6 – Policy 6-7 Land-use activities affecting surface water quality – Water Quality*

*4.29.1 Summary of submission points*

*New Zealand Fertiliser Manufacturers Association want nutrient management to be dealt with as a Permitted Activity and be prepared according to the template set out in the Code of Practice for Nutrient Management using the Overseer Nutrient Budget Model.*

*4.29.2 Evaluation*

*The submissions on Policy 6-7 are seeking the following:*

- (a) Reliance on non-regulatory mechanisms to deal with nutrient management.*
- (b) Non-regulatory methods could include community focus groups.*
- (c) Reliance on best management practices including the Code of Practice for Nutrient Management.*
- (d) Not having to obtain resource consent approval for activities that may not be causing adverse effects but rather be a Permitted Activity.*
- (e) Adoption of the Overseer model.*

*I understand the rationale regarding the approach that has been taken in the Plan which requires new intensive farming operations including dairy, cropping, market gardening and intensive sheep and beef farming to apply for a resource consent for a Controlled Activity.*

*The reports prepared by the Science Team for the Regional Council and provided to the Hearing Panel set out why the approach has been taken in terms of needing to manage the adverse effects from nutrient, faecal and sediment run-off into water bodies and that the most appropriate method of achieving this is through regulation.*

*My initial comment would be that as a Controlled Activity the application must be approved and the matters over which control is reserved are limited.*

*The existing operative Land and Water Plan and the Manawatu Catchment Water Quality Regional Plan have controls regarding nitrogen loading. The Land and Water Regional Plan states:*

*“DL Rule 4. The rate of application shall be no greater than 150 kg N/hectare in any 12 month period and shall not exceed 50 kg N/hectare in any 24 hour period.”*

*As I outlined in the Introductory Section to this report I would like the opportunity to work through the concerns of these submitters to more fully understand their issues. At the moment I have recommended the rejection of the submissions in opposition to the Policy as there is an absence of a viable detailed alternative to that proposed in the Plan.*

#### *4.29.3 Recommendation WTR 29*

*(a) The recommendations on individual submissions on this section are contained within Attachment 1.*

##### *4.29.3.1 Recommended changes to provision*

*(a) No changes are recommended.*

### **Item 1. Discussion Point :** Nutrient Management as a ‘permitted activity ‘

The proposed FARM Strategy under the OnePlan, applies nitrogen leaching/runoff values derived for different Land Use Classification units using scientifically modelled estimates for what is thought might achieve the desired water quality in surface and ground water for a catchment zone.

These are in fact ‘Best Management Targets’ for nitrogen leaching /runoff based on current estimates of soil nitrogen movement and nitrogen cycling.

Fundamental to the OnePlan is providing farmers and rural business a level of certainty for on-going business planning and investment. This provision for maximum certainty is acknowledged in Water Policies 2.1-2.5 “*The policies are intended to give the maximum reasonable certainty to resource users while maintaining good environmental outcomes.*”

However the farming / business community remains fully aware that future, science and refinement of the ‘estimates’( for Best Management Targets for nitrogen leaching /runoff) on which this process is based, may readily change up or down, as new science, information or technologies come to hand.

The FARM Strategy implementation under the proposed ‘consent’ process can be changed at any time under a review of the consent. (OnePlan Policy 2.3, Consent Review) This undermines farming and business confidence within the affected catchments.

The FARM Strategy case study examples conducted by AgResearch and farm consultants engaged by Horizons, have provided clear evidence that the long term 'Nitrogen Leaching /Runoff Rates' presented under the FARM Strategy are going to be challenging and demanding for some farming businesses, imposing considerable expense, and in some circumstances it may not be economically viable to introduce sufficient measures to meet the nitrogen leaching /runoff rates without reducing stock numbers or moving stock off farm. ( Section 42 A Report of Mr. Peter Harold Taylor , paragraphs 32 and 109).

This challenge coupled with the knowledge that consent conditions can change with review of consent, undermines and counteracts any perceived certainty of a long term OnePlan consent.

Alternatively:

Using the same FARM Strategy targets as performance standards for a permitted activity would provide farming business and the community a greater level of security and confidence. This confidence would arise from the knowledge that alteration and modification of the FARM strategy (performance standards / 'Nitrogen Leaching /Runoff Rates'), and conditions of a permitted activity will occur thorough consultation as variation of the Plan.

Consultation provides on-going opportunity for scientific and community input.

Consultation provides not only for robust evaluation of the science behind any possible changes the nitrogen leaching /runoff targets, but also for community engagement on the relative community priorities regarding possible outcomes from changes. (e.g. the potential for reduced regional production / lost business compared to potential for increased frequency of periods of reduced water quality. )

It is important to note that community values today may not reflect community values in three, five or ten years time and safeguarding consultation is important in ensuring business confidence and community well being.

Under these very new and extensive constraints on farming, use of the consent process rather than permitted activity conditions, contributes to a reduction in farming and business confidence.

The Best Management Processes and environmental outcomes can be achieved using the permitted activity process.

The Fertiliser Industry supports responsible nutrient management to avoid, remedy or mitigate environmental impacts, and it supports an 'output' based system which provides for flexibility and innovation to achieve farm profitably while meeting environmental goals using Best Management Practices and scientifically justified targets.

Conditions set as a permitted activity provide the farming businesses the long term security and confidence for investment by ensuring a consultative rather than prescriptive process in relation to changes required to address new information and meet the conditions of Best Management Practices.

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## **Item 2. - Various Items under Rule 13.2**

Extract from "*Planning Evidence and Recommendations Report*"

### 4.82 Chapter 13 – Rule 13-2 Fertiliser – Water Quality

#### 4.82.1 Summary of submission points

The NZ Fertiliser Manufacturers Research Association wants the conditions to provide for aerial application similar to the conditions in Rule 14-2. The submitter notes that clause (c) should refer to the updated Code of Practice for Nutrient Management (NZ Fertiliser Manufacturers Research Association, 2007). The submitter also seeks the wording within clause (d) to specify the clause applies where there is more than 60kg N/ha/yr being applied and that the nutrient budget be undertaken by a accredited nutrient advisor using the template set in the Code of Practice and using the OVERSEER Nutrient budget model.

#### 4.82.2 Evaluation

##### Clause (c)

Submitters want clause (c) to refer to the Aerial Spreadmark Code of Practice 2006, compliance with Fertmark Product Classification for Poultry Manure as defined in the Fertmark Code of Practice for the Sale of Fertiliser in NZ, the Forestry Environmental Code and the Nutrient Code of Practice for Nutrient Management (2007).

Clause (c) deals with the application of fertiliser which I understand to be covered by the Code of Practice for Nutrient Management. I appreciate that there may be other codes but this one is generic to cover all applications. I will however, return to the matter of the aerial application of fertiliser and whether the Aerial Spreadmark Code also needs to be referenced, in my Supplementary Report.

I accept that clause (c) should refer to the updated Code of Practice for Nutrient Management (NZ Fertiliser Manufacturers Research Association, 2007) and I recommend this change be made.

#### Clause (d)

Currently the way clause (d) is framed a nutrient budget is required in all situations including for domestic activities, as this clause does not have a similar qualifier to that contained in clause (c).

I do not think this was the intent of the clause. Submitters want to know if there are exceptions to this clause and note that perhaps this could be achieved through specifying a rate (suggestions range from 60 to 120kg N/ha/yr). I agree that a rate is perhaps an appropriate way of managing the issue. I have at this time recommended the inclusion of a rate of 60 kg N/ha/yr and this is a matter I will discuss further with the submitters and return to in my Supplementary Report.

In terms of the suggestion that the nutrient budget be undertaken by a accredited nutrient advisor using the template set in the Code of Practice and using the OVERSEER Nutrient budget model, I consider this to be a more onerous requirement than the current wording. I am unsure what benefits this would achieve and have recommended this submission be rejected although I will discuss this matter further with the submitter.

#### 4.82.3 Recommendation WTR 82

(a) The recommendations on individual submissions on this section are contained within Attachment 1.

##### 4.82.3.1 Recommended changes to provision

(a) Amend Rule 13-2 in accordance with the changes recommended in track changes for Rule 13-2.

## **Item 2. Discussion Point :** Various Items Under Rule 13.2

**Item 2. (a) Clarification of reference to Condition 14-2 (i) :** where the Planning Evidence and Recommendations Report summarises that ; “*The NZ Fertiliser Manufacturers Research Association wants the conditions to provide for aerial application similar to the conditions in Rule 14-2.*” It is important to clarify that ;

The original submission referred only to condition 14.2 (i) as follows:

**“The condition should permit practical aerial application by means of specific allowances as per Rule 14-2, condition 14-2 (i) page14-5.”**

Condition 14-2 (i) quantifies the size of water bodies for which all reasonable measures shall be taken to prevent any discharge of aerial application of agri-chemicals, as follows.

- (i) within 20 m of any continually flowing river which has a bed width of 3 m or more, or any lake or wetland which has an area of 1 ha or more
- (ii) within 50 m of any rare or threatened habitat\* or at-risk habitat\*.

No such guidance /allowance is provided for aerial applications of fertiliser to very small, or ephemeral water bodies under Rule 13.2 which says ;

(a) There shall be no direct discharge of fertiliser\* into any waterbody including groundwater.

**Item 2 (b) : Rule 13.2 clause (d) :** In preference to requiring a nutrient budget for all situations, the Fert Research submission suggested a conservative, cautious recommendation for a threshold of 60 Kg Nitrogen per hectare per year, above which a nutrient budget should be applied.

That submission was made prior to completion of the Wise Use on Nitrogen Trial at Ballantrae and Invermay research stations. The Ballantrae and Invermay N trials are the first formal attempt to directly quantify the amount of nitrogen leaching from below the root zone in intensively grazed hill country pastures. Results have recently been published and show that ;

*“Results from both sites indicated that rates of fertiliser nitrogen of up to 200 kg N/ha/annum produced more feed, with no significant increase in N leaching losses compared with areas that had not received fertiliser N. Response curves from both trials suggest use of fertiliser N in hill country at normal commercial rates (<100 kg N/ha) will have relatively small effects on N leaching.”*

( See attached : Report Summary - Wise Use of N Trials )

Based on this scientific assessment, Fert Research is comfortable recommending the threshold could responsibly be set at 100 kg nitrogen per hectare per year, following best management practices for application. This is consistent with other submissions requesting values up to 120 kg N /ha/yr.

**Item 2 (c) : Accredited Nutrient Management Adviser :** Fert Research has submitted that nutrient budgets be undertaken by an accredited nutrient adviser using the template set in the Code of Practice and using the OVERSEER Nutrient Budgets model.

Overseer Nutrient Budgets remains freely available, and the model deliberately operates using information which is known or readily accessible to the farmer; however the valid and successful use of the Overseer Model is reliant on an operator with a good understanding of the underlying assumptions embedded within the model, combined with a good understanding of New Zealand farming systems.

These considerations are highlighted on the “Introduction” to Overseer on the AgResearch web site, which says ;

*‘ Caution: Effective use of the model requires the user to enter actual and reasonable inputs values representative of the farm. A reasonable level of understanding of farm systems and of the particular farm is required to be able to do this. ..*

*Scenario testing - beware;*

*If changing the level of one input make sure that appropriate changes are made to any other inputs that are affected.*

*Inputs won't be adjusted automatically, unless using the pre-set scenario options.*

*For example , changes to clover content,[ pasture] development status, rainfall, irrigation, soil test levels or fertiliser input will probably also result in changes in product yield or stocking rate.*

The Section 42A report of Dr. Andrew Keith Manderson also recommends accredited operators for producing Nutrient Budgets using Overseer. ( paragraphs 26, and 87 )

The provision of this requirement for Accredited nutrient management advisers need not be particularly onerous if it is considered that the Fert Research member companies provide nutrient budgets as part of their fertiliser recommendations, and it is mandatory that staff are ‘accredited’ with in-house training and completion of both the Intermediate and Advance Nutrient Management Short courses at Massey University.

The development of these courses was funded by the fertiliser industry and they now represent an industry standard for nutrient management qualifications by rural professionals. Since 2002, there have been over 800 enrolments in the intermediate course and 200 enrolments for the Advance course, which first commenced in 2005.

Further confidence that, the provision of nutrient budgets and nutrient management plans by accredited providers need not be too onerous is provided by the commitments made by the fertiliser industry as a partner in several government and agriculture industry joint programs. For example ; Primary Sector Water Partnership, which has set the goals to manage 80 % of nutrient applied to land through quality assured nutrient budgets and nutrient management plans by 2013, and by 2016 1.7 million hectares of intensively farmed land will have implemented nutrient management plans in the context of their wider farm management planning, to achieve improved environmental outcomes. High priority and sensitive catchment areas are most likely to be addressed first as these programs progress. Therefore, there is already a substantial commitment to provide the necessary nutrient budgets and nutrient management plans by ‘accredited’ nutrient management advisers.

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### **Item 3. - Nutrient Management as a ‘permitted activity ‘**

Extract from “*Planning Evidence and Recommendations Report*”

4.88 Chapter 13 - Rule 13-8 Agricultural land uses not covered by other rules – Water Quality

4.88.1 Summary of submission points

NZ Fertiliser Manufacturers Research Association and Ravensdown Fertiliser support the intention of the Rule and requests that all agricultural activities be permitted.

4.88.2 Evaluation

NZ Fertiliser Manufacturers Research Association and Ravensdown Fertiliser support the intention of the Rule and request that all agricultural activities be permitted. Given the approach taken to recognising that more intensive activities within problem catchments need greater control than other activities the approach being taken by the submitters will not work within the current Policy framework.

For the reasons outlined in previous sections I will work through the issues with the submitters and return to this matter in my Supplementary Report.

4.88.3 Recommendation WTR 88

(a) The recommendations on individual submissions on this section are contained within Attachment 1.

4.88.3.1 Recommended changes to provision

(a) No changes are recommended to Rule 13-8.

### **Item 3. - Discussion Point : Nutrient Management as a ‘permitted activity ‘**

Submission in support of water quality management as a permitted activity are presented in discussion points for Item 1 above.

End.