

**IN THE MATTER OF**

The Resource Management Act  
1991(RMA)

**AND**

**IN THE MATTER OF**

The Environment Canterbury:  
Proposed Canterbury Land and  
Water Regional Plan (PCLWRP)

**HEARD ON**

7<sup>th</sup> MAY 2013

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**RESPONSE TO QUESTIONS ASKED IN RELATION TO EVIDENCE ON OVERSEER  
NUTRIENT BUDGET MODEL PRESENTED BY THE DR. A.H.C. ROBERTS ON BEHALF OF  
FERTILISER ASSOCIATION OF NEW ZEALAND**

**AT FEDERATED FARMERS HEARING SESSION BEGINING 9:00 A.M., ON 7<sup>TH</sup> MAY 2013**

(Submitter number: 239)

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**Dated 23<sup>rd</sup> May 2013**

## **Canterbury pLWRP Hearing**

**Proposed by:** Ants Roberts (Fertiliser Association of NZ)

**Date proposed:** Thursday 23rd May, 2013

**Consideration:** pLWRP Hearing Commissioners

### **Description of issue:**

Within the Proposed Canterbury Land and Water Regional Plan there is a definition of 'land use change' based on a relative change in nitrogen leaching loss, as estimated by the Overseer model. Both the Officers section 42A report and various submitters have suggested different ways to define this.

The Commissioners asked expert witnesses presenting on the Overseer Nutrient Budget model at the Hearing on Tuesday 7<sup>th</sup> May; what changes in nitrogen loss shown by Overseer would be appropriate to signal a material change in N loss? Given the expert witnesses Dr Edmeades and Dr Roberts both suggested that a 10% change in N loss would be too stringent for some land uses, the Commissioners asked for an alternative suggestion to consider. The suggestion was made by the Chairman of the Hearing Panel that more than one trigger value was possible.

### **Proposed Alternative(s)**

1. Any land use leaching, as estimated by Overseer, less than 15 kg N/ha (range 10-20 kg N/ha given  $\pm 30\%$  uncertainty around the estimate) has no requirement to demonstrate change.
2. Trigger value is +30% for all land uses (based on Overseer uncertainty term)

Or an alternative:

3. Category 1 land uses (expected to have relatively low N loss): Sheep, beef and deer farms, arable farms, mixed arable/livestock farms (including those farms which winter dairy cows or graze young dairy stock) and perennial horticultural crops –  
Trigger value is +30% change in N loss.  
Example: a mixed arable/livestock farm leaching 18 kg N/ha would have undergone material change in N loss if it increased to 23 kg N/ha or more (increase in 5.4 kg N/ha) as estimated by Overseer.  
Category 2 land uses (which may have relatively high N loss): Dryland and irrigated dairying, commercial vegetable production –  
Trigger value is +10% change in N loss.  
Example: an irrigated dairy farm on shallow, stony soils leaching 60 kg N/ha would require a new consent if N loss increased to 66 kg N/ha (increase of 6 kg N/ha).

### **Points for consideration**

- We believe that the requirement for a definition around land use change is to allow the Regional Council some control over N loss rather than land use.
- We assume that other rules cover new dairy conversions and new irrigation consents.
- For regulatory purposes we believe it is inappropriate to calculate N loss using preceding 12 months data only. Given Overseer is an annual, long term steady state model, the Overseer estimated N loss change should be on the basis of at least 3 year average input data for pastoral land uses and longer for the arable land uses to reflect the cyclical nature (e.g., crop rotations) of the land use.
- A nutrient budget should be valid for at least 3 years unless there is major change to the farm system.
- The period for averaging data for farm systems should reflect the cyclical nature of the particular enterprise. As the programme is rolled out and better records are kept, the average inputs could be calculated over longer than 3 years using 'rolling averages'. e.g. a nutrient budget is produced every 3 years using data averaged over 6 or 7 years, or more for some arable land uses.