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*in the matter of:* the Resource Management Act 1991

*and:* submissions and further submissions in relation to  
proposed Variation 1 to the proposed Canterbury Land  
and Water Regional Plan

*and:* **Fonterra Co-operative Group Limited**  
*Submitter*

*and:* **Dairy NZ**  
*Submitter*

Rebuttal evidence of Ron Pellow

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Dated: 8 September 2014

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## **REBUTTAL EVIDENCE OF RON PELLOW**

### **INTRODUCTION**

- 1 My name is Ron Pellow.
- 2 My qualifications and experience are set out in my statement of evidence (*EIC*) dated 29 August 2014.

### **SCOPE OF EVIDENCE**

- 3 In this evidence I address errors in evidence of Dr Alison Dewes regarding references to Lincoln University Dairy Farm.

### **LINCOLN UNIVERSITY DAIRY FARM**

- 4 In paragraph 145 of her evidence, Dr Dewes discusses the farm trials being undertaken at "*Lincoln University Dairy Farm*" to assess whether N loss can be reduced "*without significantly affecting the profitability.*"
- 5 However, the reference to Lincoln University Dairy Farm (*LUDF*) in paragraph 145 of Dr Dewes evidence is incorrect. It appears from the following comments of Dr Dewes that the reference is in fact to *Lincoln University Research Dairy Farm (LURDF)*.
- 6 *LUDF* is run as a commercial demonstration farm, whereas *LURDF* conducts component and farmlet scale research on soils, forages, cows and farm systems to support dairy production systems.
- 7 The data as presented in Table 4 of Dr Dewes is also misrepresentative as the three columns compare two different sources of information. The *LUDF* data is the actual data measured or calculated from the operation of the 160ha / 632 cow *LUDF* in the 2011-12 season, whereas the remaining two columns report the initial results from year one of the Pastoral 21 farmlet research conducted at the *LURDF*.
- 8 The following aspects need considering in relation to the Pastoral 21 (P21) data, and its relativity to the *LUDF* data:
  - 8.1 The P21 data is collected from production measurements with 29 or 34 cows on only 8.25 or 6.75ha (respectively);
  - 8.2 Profitability for the P21 farmlets is estimated based on inputs used and assumptions for all other criteria such as labour, repairs and maintenance, and depreciation;

- 8.3 More recent analysis (*Pers comm* – P21 Research Advisory Group meeting, July 2014) of the depreciation for the P21 farmlets indicates it was probably understated by at least \$350/ha in the two research farmlets;
- 8.4 The operating profit of \$4850/ha quoted in Table 4 for LUDF is inconsistent with the published data for LUDF in the 2011/12 season. It was initially reported in July 2012 as \$4619/ha, then revised slightly to \$4553/ha once the final payout was known; and
- 8.5 LUDF has a wide range of soils compared to the soils of the LURDF and thus nitrogen leached numbers reported in Table 4 (if estimated from OVERSEER<sup>®</sup> with the true soils of these properties) will be more influenced by the soil types than the production systems.
- 9 LUDF is scaling up the P21 'Low Stock Efficient' (*LSE*) farm system for the 2014-15 season to determine the achievability of this research at a whole farm level. This risks profitability for the University but will enable additional understanding of this research and its implications across the catchment.
- 10 LUDF's budget for this season, considering the inputs and production from the LSE research, implemented at LUDF with its labour, R&M, normal farm costs etc, shows a budgeted profit for the 2014/15 season of \$3669/ha. This will be 16% (\$700/ha) lower than the profit of \$4372/ha in the 2012/13 season (if both seasons are calculated on a \$6.10/kgMS payout). The 2011/12 and 2012/13 seasons were comparable in production and costs, and thus profit on a similar payout.
- 11 OVERSEER<sup>®</sup> predicts at least a 10% reduction in N-loss for the catchment in this farm system, though only a small reduction in N-loss on the actual LUDF milking platform.
- 12 Upscaling research to full farm scale is an important aspect of farmlet research and enables the true scalability and cost impacts to be determined. These results will become available throughout the season and can be tracked by watching LUDF's performance. If performance occurs as planned, the cost to LUDF will be approximately 16% lower profit for a 10% reduction in N-loss.
- 13 The data presented in Table 4 should therefore only be considered in relation to the comparative performance of the Low vs High Stocked Efficient columns, and not as an alternative to the performance and possible N-loss of LUDF. In time the investment by Lincoln University in upscaling the LSE research will determine its viability and likely N-loss/ha.

Dated: 9 September 2014

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Ron Pellow

## REFERENCES

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