

SUMMARY OF EVIDENCE OF DR LIONEL JOHN HUME ON BEHALF OF THE SOUTH CANTERBURY PROVINCE OF FEDERATED FARMERS OF NEW ZEALAND

Key Points

Nutrient discharge

1. One of the main potential environmental impacts of farming on water quality is nutrient loss. Nitrogen in nitrate form is highly soluble and will move through the soil profile with water. Therefore, its loss from soils is closely linked with drainage.
2. Drainage and the loss of nutrients from soils is closely linked with soil water holding capacity.
3. Therefore, any allocation of rights to discharge nutrients (including in the form of flexibility or maximum caps) needs to be related to soil type, particularly in Canterbury where there are large areas of stony soils and there are such stark contrasts in potential nutrient loss from light versus heavy soils.
4. It should be noted that nitrogen discharge will fluctuate seasonally, without change in land use, because of climatic variation, and because of the cyclical nature of farming.

Reliability of water supply

5. Reliability of water supply is the key to efficient water use (and minimizing drainage). Therefore, water needs to be allocated according to plant need.
6. Therefore, the allocation of an annual volume of water on the basis of previous use over a limited time period (Method 1 of LWRP Schedule 10) as proposed in Rules 15.5.27 and 15.5.30 will not necessarily provide adequate reliability. It is much better to use a daily water balance model, designed to deliver a specific level of reliability (such as Irricalc), as provided for in Method 2 of LWRP Schedule 10.