

CONTENTS

**Editorial**

- The Winchmore trials  
*RW McDowell and LC Smith* 89

**Articles**

- Winchmore and the long-term trials: the early history  
*DS Rickard and RA Moss* 93

- Pasture production from a long-term fertiliser trial under irrigation  
*LC Smith, RA Moss, JD Morton, AK Metherell and TJ Fraser* 105

**Review article**

- Phosphorus and the Winchmore trials: review and lessons learnt  
*RW McDowell and LM Condon* 119

- The rate of accumulation of cadmium and uranium in a long-term  
grazed pasture: implications for soil quality  
*RW McDowell* 133

- Alteration of pasture root carbon turnover in response to superphosphate  
and irrigation at Winchmore New Zealand  
*JT Scott, DPC Stewart and AK Metherell* 147

**Short communication**

- Effects of long-term fertiliser inputs on the quantities of organic carbon  
in a soil profile under irrigated grazed pasture  
*LM Condon, A Black and SA Wakelin* 161

- Influence of summer irrigation on soil invertebrate populations in a  
long-term sheep irrigation trial at Winchmore (Canterbury)  
*PM Fraser, NL Schon, JE Piercy, AD Mackay and MA Minor* 165

**Review article**

- Bibliography of research from the Winchmore Irrigation Research Station,  
Canterbury, New Zealand: 1951 to 2011  
*KA Cousins and RW McDowell* 181