

# CONTENTS

## Research articles

- Pasture renewal on Bay of Plenty and Waikato dairy farms: impacts on pasture performance post-establishment  
*KN Tozer, GM Rennie, WM King, NR Mapp, LT Aalders, NL Bell, DJ Wilson, CA Cameron and RM Greenfield* 241
- Effects of nitrogen fertiliser application rate on nitrogen partitioning, nitrogen use efficiency and nutritive value of forage kale  
*E Chakwizira, JM de Ruiter and S Maley* 259
- Resistance of *Ranunculus acris* to flumetsulam, thifensulfuron-methyl and MCPA in New Zealand dairy pastures  
*CS Lusk, GA Hurrell, KC Harrington, GW Bourdôt and DJ Saville* 271
- Diurnal changes in water-soluble carbohydrate concentration in lucerne and tall fescue in autumn and the effects on in vitro fermentation  
*C Cajarville, A Britos, N Errandonea, L Gutiérrez, D Cozzolino and JL Repetto* 281
- Effectiveness of three inoculation methods for lucerne (*Medicago sativa* L.) in two Canterbury soils  
*K Wigley, WYY Liu, Q Khumalo, DJ Moot, DS Brown and HJ Ridgway* 292
- Root morphology and architecture, and internal phosphate use efficiency, in related white clover cultivars of different ages  
*JR Crush, L Ouyang and SN Nichols* 302
- Fertiliser and seasonal urine effects on N<sub>2</sub>O emissions from the urine-fertiliser interface of a grazed pasture  
*LE Buckthought, TJ Clough, KC Cameron, HJ Di and MA Shepherd* 311
- Cost-benefit analysis blueprint for regional weed management: *Nassella neesiana* (Chilean needle grass) as a case study  
*G Bourdôt, B Basse, D Kriticos and M Dodd* 325
- Review article**
- Nitrogen gaseous emissions from farm effluent application to pastures and mitigation measures to reduce the emissions: a review  
*J Li, J Luo, Y Shi, D Houlbrooke, L Wang, S Lindsey and Y Li* 339
- Short communication**
- Economic benefits of mechanical soil aeration to alleviate soil compaction on a dairy farm  
*S Laurenson, JA Turner, JM Rendel, DJ Houlbrooke and DR Stevens* 354