

**CONTENTS**

**Research articles**

- 333 Analysis of soil eDNA functional genes: potential to increase profitability and sustainability of pastoral agriculture  
*SA Wakelin, VM Cave, BE Dignam, C D'Ath, M Tourna, LM Condrón, J Zhou, JD Van Nostrand and M O'Callaghan*
- 351 Comparative performance in Holstein-Friesian, Jersey and crossbred cows milked once daily under a pasture-based system in New Zealand  
*F Lembeye, N López-Villalobos, JL Burke, SR Davis, J Richardson, NW Sneddon and DJ Donaghy*
- 363 Nitrous oxide emissions from drained peat soil beneath pasture  
*FM Kelliher, C van Koten, SB Lindsey, B Wise and G Rys*
- 377 Cyanogenic white clover as a proxy for GM biosafety testing using two New Zealand native insects  
*BIP Barratt, KE Crook, KJM Dickinson and DJ Burrett*
- 389 Effect of seed mix, sowing time, summer fallow, site location and aspect on the establishment of sown pasture species on uncultivable hill country  
*KN Tozer, GB Douglas, RA Moss, GM Rennie, TL Knight, CA Cameron, NA Mapp, PD Muir, RM Greenfield, RAJ Gray, J Beutrais and TJ Fraser*
- 412 Spectrophotometric technique for measuring herbicide deposition from wiper applicators  
*C Moyo, KC Harrington, H Ghanizadeh, PD Kemp and JPJ Eerens*
- 422 Characterisation of the morphological variation for seed traits among 537 germplasm accessions of common vetch (*Vicia sativa* L.) using digital image analysis  
*R Dong, MZZ Jahufer, DK Dong, YR Wang and ZP Liu*

**Short communications**

- 436 The Paris Agreement and its impact on cattle and food sectors of New Zealand  
*MA Fernandez and A Daigneault*
- 444 Identifying critical soil water thresholds to decrease cattle treading damage risk  
*S Laurenson and DJ Houlbrooke*