

# CONTENTS

---

NZGA President's Address 2019 – Smarter pasture renewal plus objective thinking .....	7
	<i>Graham A. Kerr</i>
<i>Levy Oration 2019: Musings on our sustainable agriculture journey .....</i>	11
	<i>Liz Wedderburn</i>
Calculation of sheep and beef economic weightings for the seasonal dry matter production trait for use in a forage-cultivar selection decision-support tool .....	17
	<i>Cameron I. Ludemann</i>
Genomic assessment of white clover and perennial ryegrass genetic resources .....	27
	<i>Marty J. Faville, Andrew G. Griffiths, Abdul Baten, Mingshu Cao, Rachael Ashby, Kioumars Ghamkhar, Won Hong, Anna Larking, Michelle Williamson, Zane Webber</i>
Real-time on-farm N loss measurement.....	35
	<i>Samuel J. Dennis</i>
Factors influencing fertiliser and lime decisions on South Island high- and hill-country farms .....	45
	<i>Xiaomeng K. S. Lucock, Jim L. Moir</i>
Application of circular economy principles to New Zealand pastoral farming systems .....	53
	<i>Vicki T. Burggraaf, Gina M. Lucci, Stewart F. Ledgard, Diogenes L. Antille, Val O. Snow, Cecile A. M. de Klein</i>
Nitrogen leaching losses from fodder beet and kale crops grazed by dairy cows in southern Southland .....	61
	<i>L. Chris Smith, Ross M. Monaghan</i>
Impact of winter fodder beet or kale allocation on body condition score gain and early lactation performance of dairy cows .....	73
	<i>Dawn E. Dalley, J. Paul Edwards, Roshean R. Woods</i>
Impact of pasture height and herbage mass on suppression of variegated thistle in North Island East Coast hill country .....	83
	<i>Katherine N. Tozer, Rose Greenfield, Renee Grigson, Catherine Cameron, Ants Roberts, Emma Noakes, Tim Rhodes, Sue Zydenbos</i>
Effect of cultivar, timing of establishment and cutting interval on yield and seed set of arrowleaf clover .....	91
	<i>Paul D. Muir, Beverly C. Thomson, Noel B. Smith</i>
Ammonia-oxidizing bacteria dynamics affected by plantain under synthetic cattle urine patches.....	97
	<i>Priscila Simon, Cecile De Klein, Emily Gerard, Shenjing Shi</i>

Understanding water losses from irrigated pastures on loess-derived hillslopes .....	103
Stephanie Langer, Rogerio Cichota, Steve Thomas, Dirk Wallace, Gina van der Klei, Mike George, Tom Johns, Peter Almond, Shane Maley, Nathan Arnold, Wei Hu, MS Srinivasan, Channa Rajanayaka, Matt Dodson, Roderick Hayman, Chandra Ghimire	
Effect of deferred grazing during late spring and summer on pasture productivity in Waikato and Bay of Plenty hill country .....	111
Katherine N. Tozer, Karin Müller, Tony Craven, Ian Tarbotton, Allen Coster, Jon Sherlock, Catherine Cameron, Rick Burke	
Yield of subterranean clover after post-emergence herbicide application for broadleaf weed control .....	121
Breanna J. O. Taylor, Derrick J. Moot, Rainer W. Hofmann	
Winter-forage crop grazing in the Gore-Mataura area of Southland: using time-series mapping to estimate location and frequency of cropping .....	129
John J. Drewry, Heather North, Stella E. Belliss, Alexander Amies	
Identifying morphological traits associated with vegetative persistence in the perennial ryegrass ( <i>Lolium perenne</i> L.) cultivar 'Grasslands Samson' .....	139
Jessica R. O'Connor, James R. Crush, Zulfi Jahufer	
Persistence of perennial ryegrass, tall fescue and cocksfoot following sequential annual sowings: pasture yield, composition and density in three establishment years under cattle grazing in Waikato .....	149
Gerald P. Cosgrove, Michael R. Trolove, Maryann R. Staincliffe, Katherine N. Tozer	
Commercial practice of out-wintering dairy heifers in Great Britain.....	161
Norton E. Atkins, Keith E. Walley, Liam A. Sinclair	
Can <i>Lotus pedunculatus</i> over-sowing in low-fertility tussock country increase farm resilience? .....	171
David R. Stevens, J. Pat Garden, Nick Garden, Marie J. Casey	
Potential profit gains from improving pasture productivity on New Zealand South Island high-country farms.....	183
Charles A. Morrison, Jim L. Moir, Victoria C.F. Westbrooke	
Mitigation of saturation in satellite pasture measurement via incorporation of a statistical pasture growth model .....	191
Grant Anderson, Mitchell Rawlings, Graeme Ogle	
Quantifying the value proposition for white clover persistence on a New Zealand summer-dry hill-country farm.....	199
Mike B. Dodd, Katherine N. Tozer, Iris Vogeler, Rose Greenfield, David R. Stevens, Tim Rhodes, Sue Quilter	
Impact of change in body condition score in mid-late pregnancy in ewes fed a mixed diet on lamb survival and performance .....	211
Sue McCoard, Shen-Yan Hea, Catherine McKenzie, Kirsty Hammond, Tim Smith	

ACKNOWLEDGEMENTS.....	221
NZGA PRESIDENT'S REPORT FOR 2018/2019 .....	223
NZ GRASSLAND TRUST ANNUAL REPORT 2019-2020 .....	225
AUTHOR INDEX .....	229
KEYWORD INDEX.....	230
INFORMATION FOR CONTRIBUTORS .....	231
COME AND JOIN US .....	232