### **Programme**

	y 11 <sup>th</sup> February
0915-1000	Registration and Morning Tea
1000–1015	WELCOME AND SETTING THE SCENE Professor Chris Anderson Director, Farmed Landscapes Research Centre, Massey University
1015-1030	Andrew Kempson, K Green, K Forster Invited Speaker He Waka Eke Noa – Primary Sector Climate Change Commitment HE WAKA EKE NOA – GOVERNMENT AND AGRI-FOOD AND AGRI-FIBRE SECTOR JOINT CLIMATE ACTION PLAN
Session	n 1 : Agricultural Greenhouse Gas Emissions  nan: Professor Surinder Saggar  Manaaki Whenua – Landcare Research
1030-1100	Bob Rees Keynote Speaker
AGMARDT	Scotland Rural College, Edinburgh, UK HOW FAR CAN GREENHOUSE GAS MITIGATION TAKE US
FUTURE SHAPERS	TOWARDS NET ZERO EMISSIONS IN AGRICULTURE?
1100-1115	Karl Richards
	Teagasc, Wexford, Ireland OPTIONS FOR REDUCING GASEOUS EMISSIONS FROM IRISH AGRICULTURE
1115-1130	OPTIONS FOR REDUCING GASEOUS EMISSIONS FROM IRISH

1145-1200	Donna Giltrap, N Portegys, S Saggar and J Hanly Manaaki Whenua - Landcare Research, Palmerston North WHAT FRACTION OF A URINE PATCH CAN BE INTERCEPTED BY A TARGETED INHIBITOR APPLICATION?	7
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### Session 2 : Sequestering C to Offset GHG Emissions

Chairr	man: Dr James Hanly Farmed Landscapes Research Centre, Massey University
1330-1400	Axel Don Keynote Speaker Thünen Institute of Climate Smart Agriculture, Germany DEEP TILLAGE EFFECTS ON SOIL CARBON STOCKS - EVIDENCE FROM LONG-TERM EXPERIMENTS
1400-1410	Erin Lawrence-Smith, D Curtin, M Beare, S McNally, F Kelliher, R Calvelo Pereira and M Hedley Plant and Food Research, Christchurch THE POTENTIAL FOR FULL INVERSION TILLAGE PASTURE RENEWAL TO BUILD SOIL CARBON IN PERMANENT PASTURES
1410-1420	Mike Beare, S McNally, R Calvelo Pereira, C Tregurtha, R Gillespie, G van der Klei and M Hedley Plant and Food Research, Christchurch THE AGRONOMIC AND ENVIRONMENTAL BENEFITS AND RISKS OF AUTUMN PASTURE RENEWAL WITH FULL INVERSION TILLAGE
1420-1430	Roberto Calvelo Pereira, M Hedley, J Hanly, M Osborne, S McNally and M Beare School of Agriculture and Environment, Massey University. Palmerston North THE AGRONOMIC AND ENVIRONMENTAL BENEFITS AND RISKS OF SPRING PASTURE RENEWAL WITH FULL INVERSION TILLAGE
1430-1440	Sam McNally, G Van der Klei, R Calvelo Pereira, S Thomas, M Beare and M Hedley Plant and Food Research, Christchurch NITROUS OXIDE EMISSIONS FROM FERTILISER AND URINE FOLLOWING FULL INVERSION TILLAGE AUTUMN PASTURE RENEWAL
1440-1450	Miko Kirschbaum, M Beare, M Hedley, S McNally, R Calvelo Pereira, Erin Lawrence-Smith and Denis Curtin Manaaki Whenua - Landcare Research, Palmerston North WHAT PROCESSES CAN CAUSE SOIL C STOCKS TO INCREASE AFTER FULL INVERSION TILLAGE? A SENSITIVITY ANALYSIS OF POSSIBLE CONTRIBUTING PROCESSES
1450-1505	Discussion

#### 1505-1510 Poster Papers

Mike Hedley, M Beare, R Calvelo Pereira, S McNally, E Lawrence-Smith, C Tregurtha, M Osborne, R Gillespie, G Van der Klei and S Thomas School of Agriculture and Environment, Massey University, Palmerston North WHERE, WHEN AND HOW - PRACTISE GUIDELINES FOR SUCCESSFUL INTRODUCTION OF FULL INVERSION TILLAGE TO INCREASE SOIL CARBON STOCKS UNDER PASTURE		
School of Ag CAN FULL IN	J Hanly, P Jeyakumar and R Calvelo Pereira griculture and Environment, Massey University, Palmerston North NVERSION TILLAGE DECREASE SOIL AND PLANT CD CONCENTRATIONS NTRASTING SOILS?	23
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1540-1550	Nigel Meads, T Wang, N Jantasila and A Kocher Alltech New Zealand, Auckland THE RELATIONSHIP BETWEEN DIETARY PROXIMATE ANALYSIS AND GREENHOUSE GAS EMISSIONS DETERMINED USING IN VITRO METHODOLOGY	25
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1600-1610	David Scobie, R Dynes, Jessica B Faris, A Taylor, B Wright and S Wright  AgResearch, Christchurch SHEEP, BEEF AND FORESTRY TO BALANCE CARBON EMISSIONS	27
1610-1620	Phil Journeaux, J Wilton, L Archer, S Ford, and G McDonald AgFirst, Hamilton THE VALUE OF NITROGEN FERTILISER TO THE NEW ZEALAND	20

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## Session 4 : Nutrient Attenuation; Edge-of-field Practices (Part one)

Chairr	nan: Associate Professor Ranvir Singh Farmed Landscapes Research Centre, Massey University	
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0900-0920	lan Layden, S Irvine Brown, R Abel and F Manca Invited Speaker Dept Agriculture and Fisheries (QLD), Australia MANAGING NITROGEN IN TROPICAL FARMING SYSTEMS: A BUDGETING AND MITIGATION APPROACH	34
0920-0940	Rhianna Robinson, I Layden, C Wegscheidl and F Manca Dept Agriculture and Fisheries (QLD), Australia BIOREACTORS IN THE GREAT BARRIER REEF (GBR) CATCHMENTS: IMPLEMENTATION AND NETWORKING	35
0940-1000	Chris Tanner Invited Speaker NIWA, Hamilton THE SPECTRUM OF EDGE-OF-FIELD TO WATERWAY MITIGATION OPTIONS FOR NUTRIENT MANAGEMENT IN FARMED LANDSCAPES	37
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# Session 5: Nutrient Attenuation; Edge-of-field Practices (Part two)

Chairn	nan: Emeritus Professor Mike Hedley Farmed Landscapes Research Centre, Massey University	
1045-1055	Greg Barkle, R Stenger, J Clague, A Rivas and B Moorhead  Land and Water Research Ltd, Hamilton  UNDERSTANDING CONTAMINANT EXPORT PATHWAYS IS  PREREQUISITE FOR IMPLEMENTING EFFECTIVE NUTRIENT  ATTENUATION OPTIONS	38
1055-1105	Aldrin Rivas, G Barkle, B Maxwell, B Moorhead, R Stenger, L Schipper, F Birgand and J Clague Lincoln Agritech Ltd, Hamilton DETERMINING THE SPATIAL VARIABILITY OF NITRATE REMOVAL IN A WOODCHIP BIOREACTOR THROUGH HIGH FREQUENCY MONITORING AT MULTIPLE LOCATIONS	39
1105-1115	Lee Burbury, R Mellis, P Abraham, R Sutton, T Sarris, M Finnemore and M Close  ESR, Christchurch  ASSESSING IF WOODCHIP DENITRIFICATION WALLS ARE A VIABLE EDGE OF FIELD NITRATE MITIGATION PRACTICE IN GRAVEL AQUIFER SETTINGS	40
1115-1125	Rupert Craggs, J Park and V Montemezzani  NIWA, Hamilton  FILAMENTOUS ALGAE NUTRIENT SCRUBBERS FOR TREATMENT  AND NUTRIENT RECOVERY FROM AGRICULTURAL DRAINAGE	41
1125-1135	Brian Levine, L Burkitt, D Horne, L Condron, C Tanner and J Paterson School of Agriculture and Environment, Massey University, Palmerston North PHOSPHORUS MITIGATION PROJECT: QUANTIFYING THE ABILITY OF DETAINMENT BUNDS TO MITIGATE NUTRIENT LOSSES FROM PASTORAL AGRICULTURE IN THE LAKE ROTORUA WATERSHED	42

1135-1145	Brandon Goeller, C Febria, L McKergow, J Harding, F Matheson, C Tanner and A McIntosh  NIWA, Hamilton  COMBINING TOOLS FROM EDGE-OF-FIELD TO IN-STREAM TO  ATTENUATE REACTIVE NITROGEN ALONG SMALL AGRICULTURAL  WATERWAYS	43
1145-1155	Juliet Milne and J Luttrell  NIWA, Wellington  REGULATORY BARRIERS TO THE UPTAKE OF EDGE-OF FIELD AND FARM-SCALE DIFFUSE NUTRIENT POLLUTION MITIGATION TECHNOLOGIES	45
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1625-1635	Martin Espig, S Finlay-Smits, E Meenken, D Wheeler, M Sharifi and M Shah  AgResearch, Hamilton  UNDERSTANDING AND COMMUNICATING UNCERTAINTY IN DATA- RICH ENVIRONMENTS: TOWARD A TRANSDISCIPLINARY  APPROACH	69
1635-1645	Linda Lilburne, J Guo, J Barringer, I Lynn, S Hainsworth, E Teixeira and A Tait  Manaaki Whenua - Landcare Research, Canterbury  COMPARISON OF USING S-MAP SOIL INFORMATION WITH THE  OLDER FUNDAMENTAL SOIL LAYERS	70
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## Session 8: In-field Mitigation of Nutrient Losses

Chairr	an: Dr Roberto Calvelo Pereira Farmed Landscapes Research Centre, Massey University	
0835-0845	Adrian and Pauline Ball Supreme National Winners, BFEA 2019, Waikato MANAGING NUTRIENT AND GHG LOSSES WHILE MAINTAINING AN ECONOMIC BUSINESS – DENNLEY FARMS, BFEA WINNERS 2019	80
0845-0855	Charlotte Robertson  DairyNZ, Waikato  DAIRY FARM SYSTEM SOLUTIONS THAT REDUCE NITRATE  LEACHING AND THEIR CONSEQUENCES FOR PROFITABILITY	81
0855-0905	Pierre Beukes, E Minnee, T Chikazhe and J Edwards  DairyNZ, Hamilton  OPTIONS AND IMPLICATIONS FOR INCORPORATING PLANTAIN  MIXED PASTURES INTO A CANTERBURY DAIRY SYSTEM	82
0905-0915	Soledad Navarrete, P Kemp, M Rodriguez, D Horne, J Hanly and M Hedley School of Agriculture and Environment, Massey University, Palmerston North PLANTAIN (Plantago lanceolata L.) NITROGEN USE AND EXCRETION BY LACTATING DAIRY COWS	83
0915-0925	Maria Jimena Rodriguez-Gelos, P Kemp, S Navarrete, J Hanly, D Horne and P Bishop School of Agriculture and Environment, Massey University, Palmerston North NITROGEN LOSSES FROM PLANTAIN: WHAT CAN WE SAY?	84
0925-0935	Rowland Tsimba  Genetic Technologies Ltd, Cambridge  QUANTIFICATION OF NITROGEN (N) LEACHING LOSSES UNDER A  MAIZE CROPPING SYSTEM	Q

0935-0945	Chris Rogers, P Back, E Gee, Y Chin, S Linton and A Wark School of Agriculture and Environment, Massey University, Palmerston North PREDICTING NUTRIENT LOSS – WHAT TO DO WITH EQUINE PROPERTIES?	87
0945-0955	David Horne, R Singh, P Tozer and D Gray School of Agriculture and Environment, Massey University, Palmerston North SHARING BOTH THE RESPONSIBILITIES AND RESOURCES TO REDUCE N LEACHING: A NEW PARADIGM FOR DAIRY FARMING	88
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1050-1100	Tom Corser  Ministry for Primary Industries, Wellington  UPDATE ON THE PROPOSED NATIONAL POLICY STATEMENT FOR HIGHLY PRODUCTIVE LAND	90
1100-1110	Selva Selvarajah  EnviroKnowledge, Dunedin  CENTRAL GOVERNMENT MANAGEMENT OF THE FRESHWATER  UNDER THE RESOURCE MANAGEMENT ACT	91
1110-1120	Lynette Baish and K Proctor  Horizons Regional Council, Palmerston North INNOVATIVE, ADAPTIVE AND ENGAGING POLICY DEVELOPMENT FOR NUTRIENT MANAGEMENT WITHIN INTENSIVE FARMING SYSTEMS: WHERE POLICY, SCIENCE AND AGRICULTURE INTERSECT	92

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1120-1130 A Brocksopp, Peter Roberts, D Patterson and M Highway

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1350-1400	Gerald Rys Cadmium Management Group, MPI, Wellington A REFRESHED NEW ZEALAND CADMIUM MANAGEMENT STRATEGY	102
1400-1410	Gautam Shrestha, R Calvelo Pereira, G Kereszturi, J Jeyakumar, C Anderson and M Poggio School of Agriculture and Environment, Massey University, Palmerston North PREDICTING CADMIUM CONCENTRATION IN NEW ZEALAND AGRICULTURAL SOIL USING MID INFRARED SPECTROSCOPY	103
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1420-1430	Mitchell Donovan and R Monaghan  AgResearch Invermay, Mosgiel  MODELLING SPATIAL AND TEMPORAL VARIABILITY IN EROSION RISK FOR WINTER GRAZING MANAGEMENT	105
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