

D / Resilient pasture based dairy farm production systems – the research perspective

What is the research telling us? Low footprint, maximum sustainable profit dairy system. The intensification promises and what does the research and experience tell us.

Chaired by Paul Bird, DairyNZ



Brendan Horan, PhD

Grassland Science Project Leader Teagasc, Moorepark Animal and Grassland Research and Innovation Centre, Ireland.

Brendan Horan, PhD is a Grassland Research Officer with Teagasc based at the Animal Grassland and Innovation Centre at Moorepark, Co. Cork. He is responsible for grassland science multi-year farm systems research projects and has published widely in the field of grazing dairy systems and their impacts on animal performance, farm system profitability and environmental efficiency. His research interests include the development and evaluation of more resilient grazing systems of dairy production. He holds a PhD in Dairy Science from University College Dublin and an MBA from University College Cork.



John Roche, PhD

Managing Director, Down to Earth Advice Ltd

Dr John Roche is the Chief Science Adviser for New Zealand's Ministry for Primary Industries and Managing Director and Principal Consultant for Down to Earth Advice Ltd. Most recently, he was Principal Scientist for Animal Science at DairyNZ; but, he has also held science appointments with the National Centre for Dairy Production Research at Moorepark in Ireland, the Department of Primary Industries in Australia, and the University of Tasmania.

Dr Roche has published more than 150 peer-reviewed science journal articles and book chapters. He is a regular contributor at international science and farming conferences and has been a section editor for Journal of Dairy Science since 2012.

Dr Roche is one of the most recognized authorities on the nutrition of grazing dairy cows, with a keen focus on profitability. He also has extensive publications in grazing management, with a particular focus on the responsiveness of temperate grasses to carbon depletion, and is well known for his expertise in grazing farm systems, having published some of the seminal applied studies in stocking rate and farm system profitability.

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This paper will outline the emerging challenges for global food production systems to develop and implement improved farming systems which will meet increasing food demand, within a resource constrained environmentally and socially sustainable manner, while ensuring sustainable economic returns to producers.

We will describe the unique opportunities for pasture-based industries worldwide to meet these challenges. The main body of the paper describes the characteristics of resilient grazing systems in the context of these challenges and the most up-to-date scientific evidence. This will include an outline of emerging research areas to further improve the efficiency of grazing production systems in the future.