



RESEARCH UPDATE

December 2023

Beef + Lamb New Zealand's (B+LNZ) research team spearheads a diverse array of research on behalf of farmers. This quarterly newsletter offers a comprehensive overview of ongoing research projects. Feel free to distribute this newsletter among the broader farming community and contact research@beeflambnz.com to find out more.

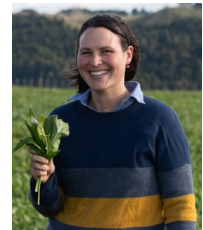
Getting to know our Farmer Reference Advisory Group (FRAG) members.

B+LNZ is privileged to be supported by a dedicated group of farmers across our research, animal welfare and biosecurity work.

Meet our Western North Island FRAG members:

Lydia Cranston

Lydia and her husband Mike farm a 320-hectare sheep and beef property in Apiti running breeding ewes and finishing cattle. Lydia has been on the B+LNZ FRAG since 2021 and enjoys letting farmers know what B+LNZ are working on and feeding farmer opinions back to B+LNZ. Lydia also contributes to the industry by participating in the Manawatu Farming for Profit Steering Committee where they help design the Farming for Profit Field days. Lydia works at Massey University as a senior lecturer in agricultural science and is passionate about teaching the new generation of NZ farmers and rural professionals.



Bevan Proffit

Bevan and wife Mary farm 1,970 hectares of hill country on the Parapara's halfway between Whanganui and Raetihi. It's an extensive breeding system with 7,000 ewes and 450 cows plus replacements. All male progeny are sold store. Bevan has been on the B+LNZ FRAG since 2014. He enjoys his involvement in FRAG particularly around providing advice for making research projects practical on the ground and ensuring they will benefit NZ farmer's long term.



New resources from research



Cool Sheep® Programme: Hear about turning science into action and harnessing nProve for ram selection from our recent webinar [here](#).



The parasite chronicles: Listen to Ginny Dodunski, Wormwise Programme Manager talk about parasites and drench resistance and the importance of feeding animals well [here](#).



Animal health, production, and welfare

A global approach to sustainable parasite management. The B+LNZ research team are having discussions with national and international parties interested in developing a collaborative partnership with a focus on internal parasites. Discussions have revealed similar challenges worldwide and a global partnership could maximise impact. The initial phase involves conducting a stocktake of ongoing tasks, identifying resources available for collaboration, and compiling a list of projects suitable for combined funding efforts.

Alleviating pain in animals undergoing procedures like tail docking and castration is a becoming more important for farmers. Our investigation, in partnership with Animal Welfare Solutions, is focused on identifying practical and effective pain mitigation options for these procedures in sheep and cattle, specifically tailored for New Zealand farmers. Information was gathered through the scientific literature and engagement with farmers, researchers, industry experts, and pharmaceutical companies.

Key findings include the ongoing challenge of identifying practical and effective pain mitigation options for sheep and cattle. While some options, such as Buccalgesic® and NumNuts, are currently in use on New Zealand farms, there is a need for further research to explore novel products and delivery systems. This could potentially lead to better options for farmers. Additionally, more research is required to understand the practicalities and logistics of implementing pain mitigation on New Zealand farms, as well as the impacts of such measures on production. This information is crucial for conducting a comprehensive cost/benefit analysis of providing pain relief in the agricultural context. The project is due for completion early 2025.

Over 180 farmers have joined our three-year sheep poo study. This study will help fill gaps in our understanding of FE's prevalence and how a warming climate is influencing its distribution and factors involved in its presence. For more information, see the [media release](#). Sampling kits have been sent to farmers to collect faecal samples from sheep mobs across this FE season and Gribbles Laboratories already have testing underway. If you would like to be involved, contact us at research@beeflambnz.com.

Understanding ectoparasite challenges in livestock farming. Ectoparasites (lice, flies, ticks, and mites) pose a significant animal health and welfare challenge for our livestock farmers. We are undertaking a small project to identify research gaps, new opportunities, and emerging issues like climate change and chemical resistance in relation to ectoparasite and our livestock. This knowledge will help develop new, or update existing, materials to assist farmers in effectively addressing ectoparasite challenges.

Climate change preparedness and adaptation

Introducing the Catch the Rain initiative. This project is a collaborative effort led by Quorum Sense, with Manaaki Whenua Landcare Research, and B+LNZ. The aim of this three-year project is to team up with livestock farmers to discover customised solutions that enhance rainwater retention in soils, boosting both soil and climate resilience. So far 60 farmers have signed up.

Empowering Northland Livestock Farmers for Climate-Resilient Forages. This project is a collaboration between B+LNZ, DairyNZ, AgFirst Northland and Primary Purpose aimed at understanding the unique needs of Northland farmers in coping with a changing and often unpredictable climate. Initial work is to interview 25-35 livestock farmers to get valuable experiences and insights regarding forages and pasture management and understand various influences on decision making. The overall goal is to shape a business case for government co-funding to ensure Northland farmers can keep producing top-quality forage for our livestock, both now and in the future

Exploring Farm System Changes for Greener and Profitable Operations in New Zealand. A series of case studies aimed at finding ways to reduce greenhouse gas (GHG) emissions while keeping our farms profitable is in progress. A computer model called Prisym, developed by Agrisystems and Analytics, is assessing combining farm system changes like increasing liveweight gains (LWG) and hogget mating to reduce emissions. Based on the case studies so far, combining certain changes can really make a difference in reducing GHGs, but we also need to consider practicalities of on-farm implementation and farmer preferences and values.



Genetics

Informing New Zealand Beef (INZB) Programme

Economic model and selection index development work kicked off. Selection index development, informed by farmers, INZB Industry Advisory Group and Technical Advisory Group, B+LNZ economic services team and data from the Beef and Dairy-Beef Progeny Tests, includes three core activities being carried out by AbacusBio in collaboration with B+LNZ:

- Development of an index model to support delivery of prototype indexes for NZ beef systems.
- Selection index modelling to assess the impact of the indexes on GHG emissions.
- Selection index modelling to assess the impact of the inclusion of proposed new traits within the indexes.

Methane measures taken on a subset of Beef Progeny Test animals. 120 Kepler Beef Progeny Test 2022-born heifers have been put through Portable Accumulation Chambers (PACs) at AgResearch's Invermay site to take GHG measures. Rumen and buccal samples were taken from each animal alongside PAC measures to potentially provide an easier, faster and more cost-effective solution to PAC measures.

CowManager tag technology being trialled on two beef farms. These tags have been used in the dairy industry but are relatively new to the beef industry. Work aims to break fertility down into more detailed components, including age at first cycling (puberty), days to conception (from bull introduction), gestation length, and post-partum anoestrus (time from calving to re-commencement of cycling) to increase accuracy of fertility trait predictions. If suitable, this work will be scaled up on more farms.

Sheep genetics

Analysis is underway of over 300 responses from commercial sheep farmers, stud breeders, and rural professionals regarding their perspectives on sheep genetics. The results will inform B+LNZ about the utilisation of genetics in the sheep farming sector. The findings will guide activities in B+LNZ's genetics programmes, track the adoption of genetic tools (e.g. Breeding Values, Indexes, nProve), and enhance support and available resources.

Cool Sheep® Programme

The exceptional science of the [Cool Sheep® Programme](#) was recently honoured at the B+LNZ awards. Lead researchers Drs Suzanne Rowe and John McEwan received the Ballance Science and Research Award, recognising the 14-year investment by farmers and government to deliver this opportunity.



All sheep breeders can now submit their interest in participating in the 2024 methane phenotyping. Breeders interested in measurements during 2024 can sign up by 15 December 2023; and information can be found [here](#).



Seasons bleatings and a happy manure year

Acknowledgements

We would like to acknowledge the B+LNZ Farmer Reference Advisory Group (FRAG), and all the farmers who have provided access to their farms for studies, samples for testing, and shared their knowledge and expertise.

We also acknowledge those who work alongside B+LNZ's research team to deliver this work for our farmers: AbacusBio, Across Performance, AgFirst Northland, AgResearch, Agrisystems and Analytics, Animal Welfare Solutions, Gribbles Laboratories Limited, Lincoln University, Manaaki Whenua - Landcare Research, Massey University, Nature Positive, Pāmu, Primary Purpose, Quorum Sense, Rezare Systems, Rimanui Farms, and Scarlatti.