

FUTURE-PROOFING THE DAIRY INDUSTRY – NOVEL RESEARCH

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Summary

New Zealand pastoral dairying can and must be productive and sustainable for the foreseeable future, despite the real or economic weather. There are several biotechnologies that can help, providing step changes in productivity, while maintaining and enhancing the sustainability and global competitiveness of our industry. Work on developing and applying these gains for New Zealand dairy's benefit will be described and discussed.

Resilience

- Bouncing back, being able to get back in shape or on track, coping with stress and catastrophe
- Hardiness, resourcefulness, being future-proof and ready

Dairy in New Zealand

- Tyrannies of distance and seasonality, rising costs for a low cost system, dependence on biology, “quality commodity”
- Biology and environment are both advantages and disadvantages
- Are we safe in our niche or are we painted into a corner?
- How can we apply biology to NZ farm systems to keep them competitive, when those systems are so variable (weather, grass growth, cow health)?

Future of dairying in New Zealand (2025ish)

- Sustainable (whatever that means)
- Your inputs and outputs - if they can measure them, they will
- Still mixed swards? Of what? Supplemented with what?
- ‘Levers’ on cows, feeds, soil, rumen
- Organic? Recycling? Microgenerating? Automated?
- Many solutions – biotechnologies are part of the answer

Biotechnologies

- Many kinds of biotech, more than you've heard of
- Many uses, many benefits, many challenges, many options
- Few people working outside New Zealand for New Zealand benefit

- Running to stand still
- Got to apply the discoveries, not just make them
- Primary benefits have to be to the NZ farmers

NZ dairy biotechnology (aka ViaLactia and partners)

- Value proposition to shareholders as part of Fonterra Milk Supply
- Targeting on-farm improvement through applied biology
- Capturing untapped potential
- Better cows
- Better pastures
- Enhancing conventional breeding
- Partly government-funded, partly levy-funded, partly Fonterra funded
- Directly connected to breeders

Better cows

- Quantum, Optimum epidermolysis bullosa and more
- Marge the outlier, and others
- Milk composition variations for industry or consumer benefit
- And more!

Better pastures

- Pastoral Genomics pan-industry consortium
- How well did forty years of breeding do?
- How well can biotech-informed breeding do?
- Productivity targets: drought tolerance, DM, persistence, condensed tannins and quality
- It's not enough to be productive
- Sustainability targets: fertilizer use efficiency, water use efficiency, forage composition

Notes:

Part of the solution

- Productivity for life, sustainability for life
- Dairying in 2025 takes more than better biology
- Better biology builds on better biology
- Lots of little answers don't add up to one big answer