A Possible Future of Dairy Farming in New Zealand

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It is the year 2042

• Dairying is a major export earner
• Dairy farms are profitable businesses
• Water quality is better than 25 years ago and continues to improve slowly year by year

How Did It Happen?
Structure of the talk

• Financial incentives for environmental performance
• Environmental legislation and regulation
• On-farm practices in 2042
Financial incentives for environmental performance

- Farmers have financial incentives to reduce impacts on water quality.
- These incentives reflect real financial returns in the market.
- This is possible because protecting water quality is just part of a much bigger “quality brand”.
- Different components of the brand appeal in different markets.
- Farmers now view protecting the environment as an “investment in a brand” rather than a “compliance cost”.
The Dairy Farming Carbon Tax of 2018

- Farmers pay a carbon tax based on the emissions from their farming operation and a carbon price set by the government.
- **All** the tax collected is refunded to the dairy farmers.
- The refund is per kg MS.
- Creates competition between farmers to produce MS with a low carbon footprint.
- Drives down GHG emissions.
Dairying’s 5-Star Rating System - Categories

• Greenhouse gas footprint per kg MS.
• Nitrate leaching footprint per kg MS.
• Farm environmental infrastructure and management.
• Animal welfare.
• Milk safety and quality.

In each category, farmers “compete” for a full-star ranking.
Environmental Legislation and Regulation

The financial incentives have made prescriptive environmental regulation unnecessary.
Environmental Legislation and Regulation

- Regional Councils must "strive to return water quality as close as possible to the original pristine state".
- Environmental performance is best measured by emissions per kg MS.
- "Best practice" is determined by what the best farmers are doing rather than by regulation.
Dairy Farms in 2042

• The fundamentals of dairy farming have not changed.
• The focus is on “profit” not “production”.
• There is a culture of continuous innovation with rapid adoption of new technologies.
• “Hybrid” dairy systems with animal housing and controlled duration grazing.
• Very high standards of animal welfare in animal housing.
• Methane capture in animal housing, milking sheds and manure storage.
Dairy Farms in 2042

- New pasture species that reduce emissions of GHG and nitrogen.
- Intensive electronic monitoring of animal production and health.
- Improved per cow production and longevity in the herd.
- Financial incentives have compressed the range in farmer performance.
How it was Achieved

• Astute branding created premiums that were passed on to farmers.
• The concept of “trade-offs” between environmental and financial performance became redundant.
• There was no “silver bullet”. Progress came from many small changes.
• Competition between farmers for environmental premiums created continuous improvement and led to the rapid uptake of new technologies.
How it was Achieved

• Environmental regulation was simplified
• Central and local government set directions, not targets. Constant improvement was the key.
• Industry and government leaders did not let “perfect” be the enemy of “good”.