ERIC PAWSON & THE BIOLOGICAL ECONOMIES TEAM

# THE NEW BIOLOGICAL ECONOMY

## How New Zealanders are Creating Value from the Land

From milk and merino to wine and tourism, how New Zealanders are finding new ways to make a living off the land

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For over a century, New Zealand has built its economy through a series of commodity-based booms – from wood and wool to beef and butter. Now the country faces new challenges. By doubling down on dairy farms, aren't New Zealanders destroying the clean rivers and natural reputation upon which the country's primary exports (and tourism) are based? And in a world where value is increasingly rooted in capital- and technology-intensive industries, can New Zealand really sustain its high living standards by growing grass?

This book takes readers out on to farms, orchards and vineyards, and inside the offices and factories of processors and exporters, to show how New Zealanders are answering these challenges by building *The New Biological Economy*. From Icebreaker to Mr Apple, from milk and merino to wine and tourism, from high-end Berlin restaurants to the shelves of Sainsbury's, innovative companies are creating high-value, unique products, rooted in particular places, and making pathways to the niche markets where they can realise that value.

*The New Biological Economy* poses key questions. Do dairy and tourism have a sustainable future? Can the primary industries keep growing without destroying the natural world? Does the future of New Zealand lie in high tech or in the innovations of a land-based economy?

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# Dairying in question

Dairying is, alongside tourism, New Zealand's largest export earner. Taken together they account for about half of the country's external trade by value. In recent years, both seem to have crossed a threshold in visibility, range of impacts and, increasingly, public legitimacy. Changes in the landscape are there for all to see. New dairy factories are linked by a seemingly continuous flow of double-articulated dairy tankers to huge production units fed by giant irrigators. Most of these dairy farms are suppliers to Fonterra, a cooperative which from the moment of its creation in 2001 became New Zealand's largest company. It was intended at the time that Fonterra would have the scale and scope to deliver that most elusive of national goals in this critical primary industry: 'added value'. But has this in fact been delivered?

A recent review in the *Irish Times* has provided a reality check, with a comparison of dairy development in Ireland and New Zealand under sharply contrasting regulatory regimes.[1] In 1984, when the European Economic Community introduced milk quotas, the two countries had roughly the same number of dairy cows (four million) and produced comparable volumes of milk. Since then, Ireland's milk output has increased to about 5.5 billion litres while New Zealand's has soared to 20 billion. Irish dairying has a debt-to-equity ratio of around 5 per cent, whereas in New Zealand it sits near 40 per cent. The *Times* contended that expansion and intensification over the past decade has ironically not returned any real value to New Zealand farmers, although export earnings to the nation amounted to roughly $90 billion over the decade. It quoted the Irish Minister of Agriculture as

*By Richard Le Heron*





saying he would do everything to ensure Ireland did not go down the same route as New Zealand. So what has happened in the New Zealand industry, and why has a volume mentality continued to hold sway? Why is it that environmental costs have mounted beyond publicly acceptable limits, ironically threatening the national brand image that is so much a part of the growth of the other big earner, tourism?

## The world dairy stage

This chapter explores those questions. In doing so, it seeks to provide fresh ways of approaching the perennial question of why New Zealand's largest commodity business has not moved as rapidly up the value chain as business commentary frequently urges. In order to understand national dairy dilemmas today, it is necessary to recognise the international and historic context that frames these. The industry has been fundamentally transformed since the 1990s as part of the globalisation of dairying, which has truly been played out on the world stage. This is an inevitable consequence of New Zealand dairying from its inception having been overwhelmingly export-oriented. For much of its life, it has sold most of its production offshore, going right back to the late nineteenth century, when the Anchor brand first came to prominence as a means of positioning New Zealand butter in the British market. What happens offshore has always shaped the dairy industry onshore.

New Zealand's dairy dilemmas today are therefore closely connected to ongoing changes in world dairying. Developments in New Zealand's dairying, driven by regulatory and market reforms in the twenty-first century, have collided with the emerging global dairy and wider food system. The extent of structural change in world dairying could not have been easily foreseen. Dairy's starting point in the last quarter of the twentieth century was a world map based on dairying in national economies, supplying fresh milk and producing traditional products like butter and cheese for domestic sale, with periodic surpluses sold internationally. New Zealand had a unique place on this map, supplying butter and cheese, mainly to the United Kingdom market through preferential trade arrangements.

National dairy companies then outgrew their home territories to become globalising entities. Dairy as a food category emerged with an expanding field of specialty dairy consumer products,[2] melded into a supermarket revolution that began first in the United Kingdom, much of western Europe and North America.[3] Global dairy supply chains associated with dairy companies arose to support new consumer-centred and supermarket-centred market relations. In this context, Fonterra became one of the world's foremost ingredients suppliers to big food manufacturers. The supply chains formed the organisational glue, serving supermarkets, food manufacturers and multilocational dairy companies in developed and now developing countries. According to the Boston Consulting Group, dairy sales worldwide amount to $500 billion annually. They represent not only the biggest revenue-generating category in the food and beverage sector but also the fastest-growing, although profits growth of dairy companies was only half that of food and beverage companies overall.[4] This state of global dairy affairs suggests that New Zealand dairying's world view, which could be described as 'produce first (but efficiently) and worry about consumption relations later', is something of a misfit.

The evolution and consolidation of the top ten dairy companies from the late 2000s through to 2016 makes for a revealing story (Table 2.1). The rankings are fairly stable, Fonterra being no exception. The companies are a mix of farmer cooperatives and corporates. Both the corporates and the cooperatives have contributed to the rise of interlinking global dairy supply chains and have played their part in defining dairy as a food category. The 2016 descriptions of their core business values show differing views of what they wish to prioritise to make their dairy futures. The cooperatives (excepting Fonterra, which talks about value-adding products) are conventional in their commercial emphasis and vision. The corporates, in contrast, are diversified in their vision and operating focus. All companies have developed sophisticated strategies to enliven the dairy category, partly geared to new markets like China, but also dedicated to revitalising their traditional markets at home.

The defining features of the industry have been collaboratively orchestrated through the Global Dairy Platform, where Fonterra has been a conspicuous leader through provision of key staff. Begun in 2006 and based in Chicago, this platform made one of its first tasks the retelling of dairying's story in the face of dietary, environmental and animal-welfare challenges. The excitement of this pioneering effort was most apparent first-hand during a visit to the platform in 2010.[5] At that time, staff were saying that full-fat dairy foods are beneficial to health, a deliberate pitch to





**Table 2.1:** Top ten global dairy companies in 2009 and 2016, with self-defined profiles.

| Corporates 2009 | Core business focus 2016 | Corporates 2016 |
|---|---|---|
| **Nestlé** *(Switzerland)* | Nutrition, water, rural development | **Nestlé** *(Switzerland)* |
| **Danone** *(France)* | Production and marketing of drinking milk, butter, cheeses, fresh dairy, cream | **Lactalis** *(France)* |
| **Lactalis** *(France)* | Water, early life nutrition, medical, health | **Danone** *(France)* |
| **FrieslandCampina** *(Netherlands)* | Dairy cooperative of choice for milk processing | **Dairy Farmers America** *(USA)* |
| **Fonterra** *(New Zealand)* | Dairy nutrition, ingredients | **Fonterra** *(New Zealand)* |
| **Dean Foods** *(USA)* | Supplies dairy products containing valuable nutrients | **FrieslandCampina** *(Netherlands)* |
| **Arla** *(Denmark)* | Eight dairy categories in six regions | **Arla** *(Denmark)* |
| **Dairy Farmers America** *(USA)* | Healthy and nutritious dairy products | **Yili** *(China)* |
| **Kraft** *(USA)* | Cheese, fluid milk, extended shelf-life milk and cream products, cultured products and dairy ingredients | **Saputo** *(Canada)* |
| **Unilever** *(Netherlands, UK)* | Dairy products | **Dean Foods** *(USA)* |

Sources: websites of companies

counter the view then prevailing among regulators and health professionals that dairying was linked to heart disease. Along with other lobby groups such as the European Milk Forum, they convinced governments that the fact dairy products contained saturated fats should not be a reason to set limits on the consumption of milk and milk products. More recently the Global Dairy Platform has been working with Google to build a dialogue with groups supporting similar interests to that of dairying to increase trust

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