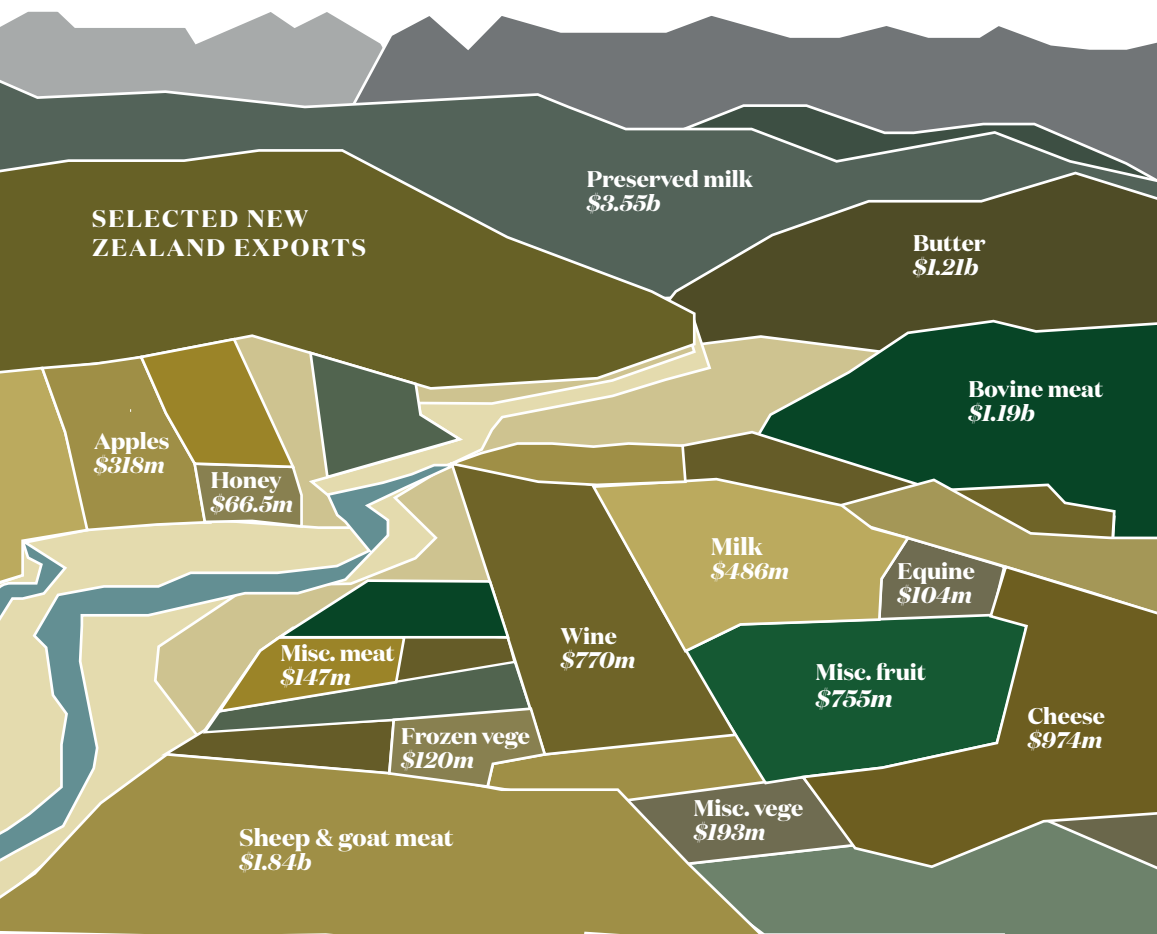


The New Zealand Land & Food Annual

Why waste a good crisis?

The end of 'white gold fever',
and rethinking agribusiness



Edited by Claire Massey

The New Zealand Land & Food Annual Vol. 1, 2016

New Zealand depends on what our farmers, foresters and horticulturalists grow.

When agriculture catches a cold, the entire economy sneezes. Right now things are looking a bit gloomy. What's the crisis telling us we should be doing better?

That's where *The New Zealand Land & Food Annual* comes in. It features cutting-edge, provocative and expert views on the broad agrifood and agribusiness sector.

Each edition has a defining theme. The first addresses dairying's current woes, and asks: Given the huge risks 'NZ Inc.' faces, is agriculture headed in the right direction?

Does it need to be reshaped?

And how can we make it attack- and disaster-proof?

Plus: Could we face trade boycotts because of our weak response to climate change?

After the end of 'white gold fever' what's the new normal?

Are we taking full advantage of export markets?

How will new technology change the way we farm?

'If we're to double the value of our primary-sector exports by 2025 we need to transform not *what* we're selling, but the *way* we're selling it. We're leaving value on the table. Sometimes, it takes a good crisis to catalyse action.'

— *John Brakenridge, CEO, The New Zealand Merino Company*

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Edited by Claire Massey



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Foreword: The big questions

Claire Massey

Director of Agrifood Business,
Massey University

I grew up on a dairy farm in New Zealand. Fifty years ago, the conversations I overheard in my parents' kitchen were about droughts, the difficulty of getting young people into farming as a career, and — the major concern for them at the time — the threat of 'lifestyle blocks' encroaching on what they regarded as productive land. I recall Britain's entry into the European Economic Community (EEC) and remember my father's implacable position: that the system of supplementary minimum prices had to be dismantled if New Zealand was going to prosper in a new environment where being competitive internationally was the key to survival.

It was the same background as that of thousands of New Zealanders, families in which the daily conversations focused on how best to earn a living from the land in a way that ensured that the next season would be protected and future value preserved for another generation. The talk in homes around the country was of threats to their way of life and how to respond, and their context was international — though bounded by what was then called 'home', which for many New Zealanders was the United Kingdom. They looked for ways of dealing with the threats they saw coming, and they responded in a way that was so uniquely

New Zealand it developed its own name: Number 8 wire. They understood the farm as a system with complex inputs and outputs and they used the available technology to manage the results.

On today's farms, so much of this picture has changed. The horizon has shifted, with the rapid increase in free trade agreements giving New Zealand producers access to markets that a previous generation would have only dreamed of. What we farm has changed, too, as new markets have opened up. Our domestic base now accommodates the ethnic diversity that makes up the new New Zealand, and throughout the country growers meet the demands of Kiwi travellers returning home having experienced new foods and cuisines.

Demand for new food emerges even from those who have not left the country; between television and the internet, it's hard to escape a cooking show with its inevitable exposure to at least one new ingredient. At the same time, the Information Age allows us to engage with the world in a way that would have been impossible for the previous generation. A quick Google search provides data on the most valuable food exports of any country you care to name — and our access to daily news from around the globe offers an unimagined level of information. Where once GDP was practically the only indicator of a country's performance, nowadays there is an index for almost any dimension that can be thought of.

Not only have we changed, but as a nation we have also matured. The iwi settlement process that began in the 1980s has left us with a foundation for greater participation in the country's prosperity than even before. As the Māori economy expands, and its key enterprises find their way in the international market, the whole of New Zealand benefits.

As different populations find their place in the new New Zealand, new voices enter the conversations about issues

that affect us all; there is a different discussion about natural resources and their ownership and use than that in which my parents would have participated. The focus in the week during which I wrote this was on a crucial question in relation to water: Can it be owned? And, if not, what are the implications for companies that seek to commercialise it as a consumer product?

Water has also been the main focus for another item of debate in recent years and months: Who gets the right to decide on the most appropriate way to use it when multiple users are involved? An example of this debate is when recreational water users and producers work through the issues around their differing expectations of accessing a valuable resource.

A similar debate, again with water at its heart, is a sub-theme of the current discussion about the dairy industry. While on one level our attention is focused on the state of the global markets, underneath this is another, more fundamental question: Is the level of dairying in New Zealand a good thing at all? At present this debate is covert — or not fully in the open — but a close look at the language used in the conversations and forums around the county is instructive. If I may summarise it in broad brushstrokes, those opposing increased dairying talk about ‘intensification’ and ‘factory farming’, whereas the proponents talk about ‘optimisation’ and careful resource management.

While on the surface this debate is about dairying, at the heart of the issue is what has come to be called ‘social licence’, a term that refers to a project (or practice) that gains broad approval from the community where it is to be established. This notion offers an insight into many of the debates that New Zealanders hear about every day — whether the topic is animal health and welfare, the use of vital resources such as water, or the way in which farming occurs. The degree to which a community supports the specifics of the practice depends on whether the operator has earned a

licence — an image that carries with it a clear implication that the granting of a licence to operate comes with rules that need to be observed, and the assumption that there will be a renewal process of some kind. But this process may not be straightforward. Although we speak about social licence at the level of the community, it is based on the beliefs, perceptions and opinions held by those individuals who make up the community — and, as their views change, so too do the rules. As New Zealand has changed, so have the practices that are ‘allowed’, or at the very least tolerated.

It is in respect of this notion of social licence that technology has become a key tool. Campaigns are conducted on the basis of social media platforms, crowd-sourcing can supply funds to back action on a whole range of issues, and individuals are invited to ‘tell us what you think’ on virtually every issue and via every medium. Want to have your say about the Ruataniwha dam project? Simply text Radio New Zealand and the obliging presenters will read it out for you. The result is new participants in the debates who would not have had a way of entering the conversation formerly.

So, much has changed; but, then again, much has stayed the same. Every producer in New Zealand knows that the only way to manage the complex business operation that is a farm (irrespective of its size) is to understand it as a system, with multiple inputs and overlapping forces, many of which cannot be controlled. The most obvious of these uncontrollable forces is the weather, with producers only able to minimise the impact through careful selection of crops (or breeds of animal), effective management of costs (to ensure some level of insulation against a catastrophic event), and a long-term view that considers the next

generation (at the very least) at the same time as the next season's prices or payout.

The level of information about these inputs may have changed, as has the technology available to ensure producers have access to them, but the essential truth remains: it is impossible to manage an effective farm without factoring in all that can be gleaned about the weather, the international economy, societal changes and geopolitical dynamics. These are the same factors that faced those responsible for the first shipment of frozen meat which sailed from Otago to Britain in 1882. The only difference lies in the changing expectations of what gets sent; not content with sending whole sides of beef, we now have the technology to tap into the changing demands of a wealthier consumer base as our markets cry out for products that are ready to eat — or as near to it as possible.

Up and down the country the phrase 'value added' is probably used thousands of times every day, as in different ways we come to grips with the reality that a prosperous New Zealand depends on retaining as much economic value as possible from every single sale. Our government even has a phrase for it: the 'export double', the shorthand way of talking about the goal to increase exports from food and beverage to double the 2013 export earnings from the primary industries by 2025.

What has stayed the same? Critically, and most importantly, New Zealand's land and what it can produce is still the most important asset that we have.

One key way of estimating this value is by examining exports. During the year ending June 2015, New Zealand exported goods worth NZ\$46.3 billion. Depending on what is included in the definition of product categories that in some way originate from the land, the value of said categories exported for this same period lies somewhere between NZ\$32 and \$36 billion. This

means the exports from land-based industries are between 70 and 80 per cent of the total value.

Another way of looking at the significance of the land to New Zealand is simply to look at the area in use. New Zealand's total land area of around 27 million hectares (a bit smaller than Italy and a bit bigger than the UK) makes it the seventy-fifth largest country in the world. Of this area, about 60 per cent is cultivated, with less than 1 per cent in urban areas or other settlements. If we also consider the ocean surrounding New Zealand and its offshore islands, New Zealand has the fourth largest Exclusive Economic Zone (EEZ) in the world — 4 million square kilometres. This rich resource is the foundation of New Zealand's wealth — and is the reason why our GDP per capita makes us number 31 of the 186 economies ranked by the International Monetary Fund (IMF), about the same as the UK (27) and Italy (32).

The second constant is that land, and the food produced from it, remains critical to the New Zealand way of life, and the income we earn from exports as a country funds the things we all want and value, such as education, a health system and a way of life that is the envy of much of the world. This situation is no accident; it is the consequence of combining raw natural talent (the entrepreneurial nature of early Māori as well as the doggedness of later European settlers) with a natural environment rich in resources and opportunity. These raw materials have been shaped by the institutions that a modern economy takes for granted: government and a legal system, schools and institutions of higher education. And higher education has been critical in ensuring that our use of the land is based on good science, best practice and excellent husbandry.



Massey University has long held a unique position at the helm of this. From the late 1870s, there was strong political support for the establishment of an agricultural college in the North Island. Urgency for this initiative increased on the return of New Zealand troops following World War I, and in 1926 Victoria University and Auckland University colleges relinquished their respective schools of agriculture and combined under the New Zealand Agricultural College Act of 1926. With the way paved to establish the new college, each provided a key faculty member: Professor Geoffrey Peren, who formerly held the chair of agriculture at Victoria University College, became the principal of the new agricultural college. Professor William Riddet, who had been Chair of Agriculture at Auckland University College, was appointed to the chair in agriculture at the new institution.

Massey Agricultural College welcomed the first cohort of 85 students and the first classes began in 1928. In 1964 it became a full university, and today it includes capability in a number of areas relating to all the many aspects of land and food, offering qualifications in agriculture, horticulture, veterinary studies, business, food science and technology, design and engineering.

The focus from the start was on increasing the efficiency of agricultural production and helping New Zealand to compete in international markets, using research as a way of dealing with the many problems facing farmers at the time. The combination of Peren and Riddet set the scene for the following 40-odd years, not only for the college and, later, the university, but also for the nation. Before Peren's retirement in 1958 and Riddet's death in the same year, they taught students, mentored younger faculty and established a characteristic approach to solving problems in a practical way.

Later, providing technical assistance to the so-called developing world became a feature of the university's offerings.

Throughout this time the university has also been an active farmer: in addition to the original 82-hectare dairy block, the university now owns or manages more than 2000 hectares of land, enabling students and staff alike to learn about different farming systems and the way these systems operate in different geographic and climatic conditions.

The legacy of these resources of people and land is the significant number of alumni — estimated at more than 20,000 individuals spread across the globe — who have a Massey training in agriculture, horticulture, veterinary studies or food science. Many more alumni have found work in the primary industries or in the food-and-beverage sector, including those who have taken allied subjects (agricultural economics, for example) or have been drawn into contributing to these industries through interesting and challenging jobs.

For many, a university exists primarily for the purpose of teaching, but to other stakeholders it is the provision of research that is most significant. Amongst other things, the New Zealand Education Act of 1989 defines universities as institutions where the activities of research and teaching are closely interdependent and where most of the teaching is done by people who are active in advancing knowledge.

The act states that these individuals ‘accept a role as critic and conscience of society’. In carrying out this role, the researcher’s job is to pose questions, to undertake projects that allow different ideas to be tested and conclusions to be drawn, and to offer these conclusions to the various stakeholders in a way that encourages and guides debate. The objective is to have the community engage with the questions and the answers — research, after all, is about changing behaviour.



In this volume, the first in an intended annual publication, you will find chapters that pose questions and encourage debate. Some have been written by researchers and relate closely to long-running research programmes; others are based on an industry perspective and a personal viewpoint of the way forward for New Zealand. Farmers, bankers, scientists, economists, manufacturers and exporters are all represented here. They address the subtitle *Why waste a good crisis?* in some way, asking: Can we use the current situation facing the dairy industry to stimulate action across New Zealand that will shift the nation's earnings while maintaining our standard of living? In some areas the way forward will appear clear, but in others there are debates about the best options. In some areas the question is one of timing. While there is an increasingly strong call to limit the way in which stock effluent flows into waterways, for example, the science is still developing. At present we can simply limit this impact, not remove it completely.

The argument we make in this volume is that change does need to occur if our land and food sectors are to thrive in the next hundred years. The suggestion is that the crisis provides us with an opportunity to talk about the action that needs to be taken across all sectors and in all parts of New Zealand — by consumers as well as producers.

This notion will be given short shrift by some — especially those at the pointy end of the crisis, whose livelihoods and whānau are directly affected by the current low prices in dairy. But, with no disrespect to these individuals, this is a serious question for all of us to answer and to deal with; it can't be confined to those currently in the firing line. If New Zealand is to be prosperous in the future, any opportunity we have to solidify a foundation from which to do so must be taken.

Crises are never fun for those in the maelstrom, and 'a good

crisis' can only be appreciated once it has passed. The way in which all New Zealand can share in the pain is to become part of the solution and look for the way out. This book is for the thousands of New Zealanders who are prepared to engage in this challenge.