

INNOVATE OR STAGNATE: APPLYING BUSINESS INNOVATION METHODS ON-FARM

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Introduction

The initial purpose of my 2004 Nuffield Scholarship study was to better understand the innovation strategies that we could adopt in New Zealand to get out of the commodity products trap. But what I came to realise is that many of the techniques are relevant to our own farm businesses. The concepts are proven – but not all of them have been applied to farms.

Innovation is the lifeblood of our industry

Our industry has had a great history of innovation; the adoption of machine milking, rotational grazing, the herringbone cowshed, electric fences, the rising plate meter, the calfeteria and maize silage. All of these innovations have been important in increasing milksolids production, increasing herd sizes and reducing the costs per kilogram of milksolids.

With land prices trending up, the thing that might allow your business to expand further is your ability to innovate. Innovation from an on-farm business perspective is about adopting new technologies, new business practices, new work processes. Some things will be new; others will be adopted or adapted from research stations, other farmers or from commercial offerings.

The innovation process

Just what does successful innovation require? A *passion* amongst the people involved with and around your business to do better, a *vision* that helps focus your business development, an *innovation team* to generate ideas, judge those ideas and implement the best of them, an *innovation process* to make decisions, and a *portfolio of projects* that will have a balanced impact over the short, medium and long term. Last of all, we need to be *transparent and accountable* for the results that are being achieved.

Passion

Innovation needs people with a passion to do better. We need to combine the excitement that entices people to try new things with the commitment to measure outcomes and the dedication to systemise, or lock in place, the gains that we have made. Whether it is the big idea that will increase pasture production or the change in drench types that will save \$2/cow in animal health, it all matters.

Vision with some flavour

Your business vision should have some flavour; it needs to provide direction to your innovation investments. Your vision might be to achieve a 7% EBIT¹, to run the least cost farm system in Ashburton, or to beat the top 10% profitability as calculated by your accountancy practice, or to milk 250 cows per labour unit whilst only working 50 hour weeks. Each innovation idea can then be tested and prioritised against these criteria.

Innovation team

An ideal innovation team would be made up of you and your husband/wife/partner, your staff, a farmer that you trust and respect and your professional team. The role of this team needs to be segregated. All should help generate ideas focused on achieving your vision. You then need to assign one or more people to progress the idea (project team), and one or more people who will decide which projects to support, reject or 'put on the shelf' (steering team). If you are a one man band, then you are likely to be in both teams. But do not underestimate the role that a farm adviser, accountant, vet, product representative or your friends can play. If you are in a slightly larger business, staff can do the research on a new work practise, whereas your accountant is likely to be involved in researching a new business structure.

Innovation process

To ensure that your time and money is spent wisely requires an innovation process. Once you have generated ideas, assign people (including yourself) to do some research. Will the idea help achieve your vision, does it meet your investment criteria, does the idea still work if business conditions change, how does it rank with other ideas? At the initial screening you might identify 10–15 ideas to work on. With further information, eight might warrant a full analysis and when it comes to investment in time or money, five might make the cut this year.

A graphical example of this process is shown in figure 1. Ideas are progressively thinned out until a small group of worthwhile projects is adopted.

¹ Earnings before interest and tax

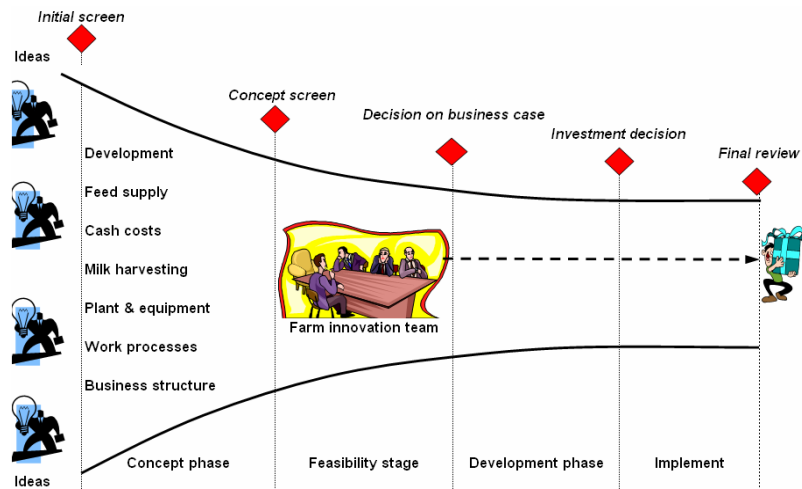


Figure 1: A pictorial example of an innovation process

Portfolio of projects

You need to ensure that you have a portfolio of short, medium and long term projects. A short term project might be to try growing maize on that area of the farm that dries out during summer anyway. Staff can be involved in measuring yield and calculating the costs of the maize grown. The big long term idea might be once a day milking. Having done the research (feasibility), you might go through a development phase – e.g. changing your breeding to Jersey and getting on top of mastitis before you implement it.

A mix of projects ensures that we are getting short term gains whilst also providing for future step changes in performance.

An innovation example

To take an example of my own; a farm my wife and I bought in the Wairarapa. In addition to (or because of) a couple of floods, we have identified that we need to improve the property’s feed supply if we are to reach our milksolids production aspirations.

In this case, our vision is to achieve 1200 kgMS/ha at a \$2.50/kgMS cost structure. To achieve this we have identified that we needed to increase feed production by 2.5 tonnes of DM/ha.

In terms of our ‘innovation team’, in addition to Alison and me, we are lucky to have a farm manager on this property that is completely focused on our production and profit objectives. We also use specialists with advice on pasture renovation and cropping.

We identified a range of projects or ideas that could help provide the additional feed. Our natural preference was for projects that would maximise the amount of that extra feed that would come from pasture rather than bought in feed, but at the same time, we have a limited amount of available capital so rely on a mix of strategies.

Short term projects

Ideas included increasing N use from 120–200 kg N/ha, the use of short term ryegrass under-sown into existing pastures, and the use of up to 500 kgDM/cow as maize silage grown on an adjoining but distant runoff block. Soil tests also consistently show low sulphur levels.

Medium term projects

Our pastures appear to have a range of ‘weed’ grass species, and at times of the year appear open and non-performing. New cultivars such as Bronsyn and Impact, and combined with the new AR1 endophyte, should be better than the traditional Nui’s and Ellets that were sown, so regrassing should be important. Some summer cropping with (high yielding) turnips could also fill a feed deficit.

Long term projects

Parts of the farm do get wet which makes utilisation and subsequent pasture growth a problem. The farm is partially irrigated with a long lateral system – a pump upgrade could increase applications from 3 mm/day to 5 mm/day and the system could be extended to cover another 15–20 ha. However, as young farmers, our capital is constrained – drainage costs \$1800 - \$2500/ha (40 ha), the pump upgrade will cost \$8000 and the irrigation project could cost \$60,000.

Decisions

Our decision process has probably been less formal than ideal, but we have hit on a mix of projects that will give maximum benefit in the shortest time:

- An upgrade of the irrigation pump (small cost for a big gain)
- Drainage of the worst 20 ha (\$40,000 for perhaps two tonnes DM/ha/annum extra pasture growth plus easier management)
- Regrassing of 15% of the farm in new species. To fit into the farm system we have used 5% of the farm in turnips but still need much better yields if this is going to work in the medium term
- Undersowing some other poorer areas (next on the list for drainage)
- Increased use of nitrogen, with some of the nitrogen as Sulphate of Ammonia.

Outcomes

Too early to tell – we hope we are on track to get to 1200 kg MS/ha within three years (without floods), but to achieve our full goal will require further drainage and irrigation investments. But we will keep track of pasture growth and our cost structure to measure progress. And we will follow the same innovation process to ensure we net all of the ideas and make good quality decisions.

Innovate or stagnate; knowing how will help.