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## Seven Principles for Improving Farm Business Management

Warren J. Parker

AgResearch (Ruakura), PB 3123, Hamilton, New Zealand.

**ABSTRACT:** The business environment for dairy farming is changing rapidly, through local and global rationalisation of milk processing and marketing, and the introduction of new technology on farms. Margins for producing milk are being squeezed through competition from other milk-producers and substitutes for dairy products. Milk prices are becoming more volatile and trending toward the international market price. These changes have brought a sharp focus on the need for farmers to improve their business management. It is no longer sufficient to be a very good production manager. Increased business risk and tighter margins means knowledge and skill in financial management, long-term planning and effective monitoring are mandatory for dairy farmers. In this paper, seven principles that dairy farmers can apply to improve their business performance in an increasingly competitive economic environment are described.

**Key Words:** Dairy Farms, Business Management, Improvement

### INTRODUCTION

Globally the dairy industry is undergoing massive change. This is most visible with the processing and marketing sectors where amalgamations and alliances are regularly occurring to form very large companies with a global presence. Change is also occurring in: dairy research and development, particularly in biotechnology; the ownership and configuration of food retailers; the level and type of subsidies to dairy farming; consumer's lifestyle, health, and well-being expectations; and Government policy on the environment, food safety, and animal welfare. Inevitably these changes are impacting on dairy farmers and their business. Stated simply: dairy farmers now operate in a highly competitive global market where competition comes not only from dairy farmers in other countries (states), but also from substitutes for dairy products such as soymilk and sodas. Every indicator points to an ongoing increase in competition in the markets for dairy-based products, and the need for continuous improvement in practice along the value chain(s) from farm to the market. Competence in business management has therefore become a dominant factor in achieving long-term financial viability and success in dairy farming. The purpose of this paper is to outline seven principles that farmers can adopt to improve their business management.

### PRINCIPLE ONE: DEVELOP AN INSPIRATIONAL DREAM

A herd owner needs first to define what s/he wants the farm business to become so that major decisions can be evaluated against this vision. A recent study of the world's top sporting

organisations has reinforced the importance of a challenging and inspirational dream. The authors of this study have proposed a new theory on **Peak Performing Organisations** (PPO: Gilson *et al.* 2000). The essence of PPO theory is summarised in Figure 1. While the terminology of PPO may be a little off-putting for some, the concepts of a dream, focus, challenge, attention to detail, and innovation or game-breaking ideas, can all be applied to the management of a farm business.

*The best way of imagining the future is to put yourself in the year 200x. Imagine what life is like and then back to where we are now and [think of ways] to tread a path towards that ... If we have a clear idea of what the preferred future should be then it is easier to see how to achieve it.*

Elements of success in achieving the 'dream' might be expressed in **goals** related to: herd performance (6500 li/cow, 285 day lactation, 2.5 cows/ha), growth in wealth (7% pa net wealth increase), farm succession (family members to take over a herd twice its current size), a partner's career (establish cottage industry), and children's education (fund University degree).

Once the 'dream' has been described (often as a story), a strategy to achieve it needs to be mapped out (Figure 2). A **strategy map** has several advantages (Norton 1999). It shows how various initiatives in the strategy are linked (cause and effect); points to the measures required to monitor how well the strategy is being implemented (sometimes called Key Performance Indicators (KPIs; Shadbolt, 1997); and provides a format that is easier for many to understand than a 10-page written business plan.

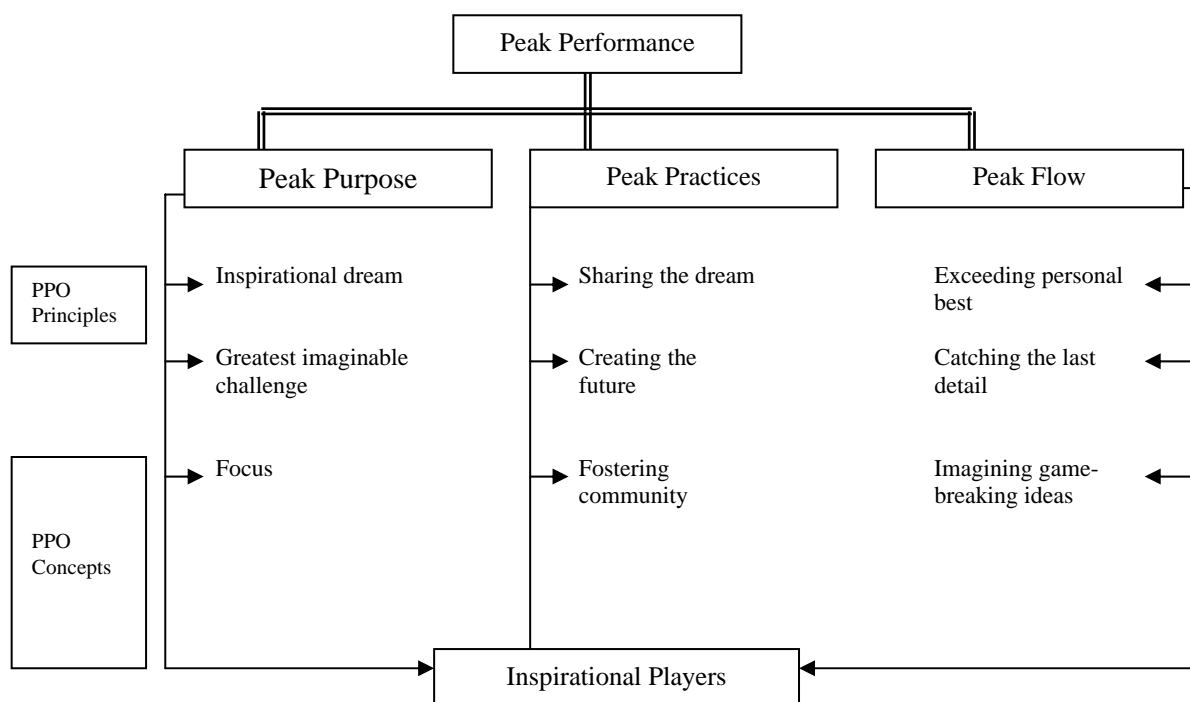


Figure 1: Peak Performance Organisation (PPO) theory (Source: Gilson *et al.* 2000).

The map shows the ‘cause and effect’ linkages between the various parts of the farm strategy. Strategy, according to Kaplan (1999), is a series of hypotheses: ‘If we gain a new understanding of feeding dairy cows, then we can enhance their milk yield and composition; and if we can do this we’ll better service consumers and receive a higher price, which will provide a higher profit margin’. The map shown (Figure 2) demonstrates that increased profitability (wealth generation) is a consequence of doing a lot of other steps first (which is why if you start at the ‘wrong place’ with strategy it is difficult to obtain effective change). It also shows that change in medium- to long-term farm business performance will be underpinned by the ‘learning and growth’ of the owner(s) (and staff).

**PRINCIPLE TWO:  
USE FORESIGHT TO DIRECT  
STRATEGY**

Foresight is ‘imagining the future’. It is conducted with the help of information on consumer and political trends (and patterns), developments in science and technology, and

intuition on ‘what might happen’. The ability to forecast the future (10-30 years ahead of the present) is critical for this simple reason: ‘Today’s decision shape the future, and the future is a reflection of the decisions taken today’ (Drucker 1964).

**Scenario planning** is a technique to help ‘imagine’ the future. A scenario is simply a ‘story about the future’ (Campbell-Hunt 1997). Schwartz (1996), the ‘father’ of scenario planning, describes it as a ‘strategic conversation which systematically raises people’s understandings of their environment and of each other ... [and] allows people to act toward common ends ... [they] occur long before the moment of decision’. A simple two-axis technique for creating four scenarios of the future is illustrated in Figure 3. The implications for the dairy farm if the external factors for each quadrant were to apply should be considered. Hasty conclusions should not be drawn on which scenario is likely to unfold and the views of those outside ‘dairy farming’ should be sought. Only after all of the scenarios have been evaluated should strategy be developed in the context of the ‘most likely’ scenario occurring.

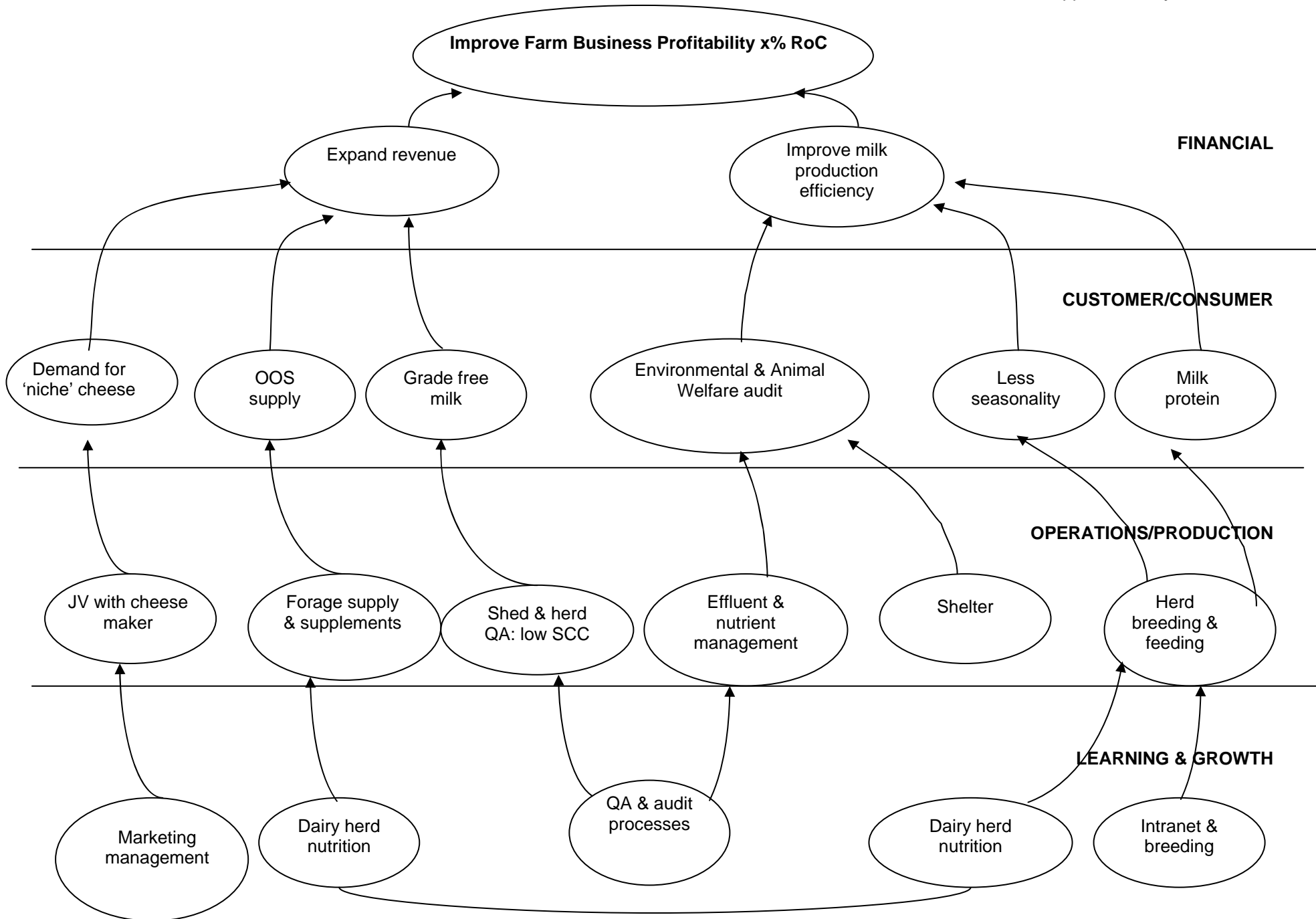
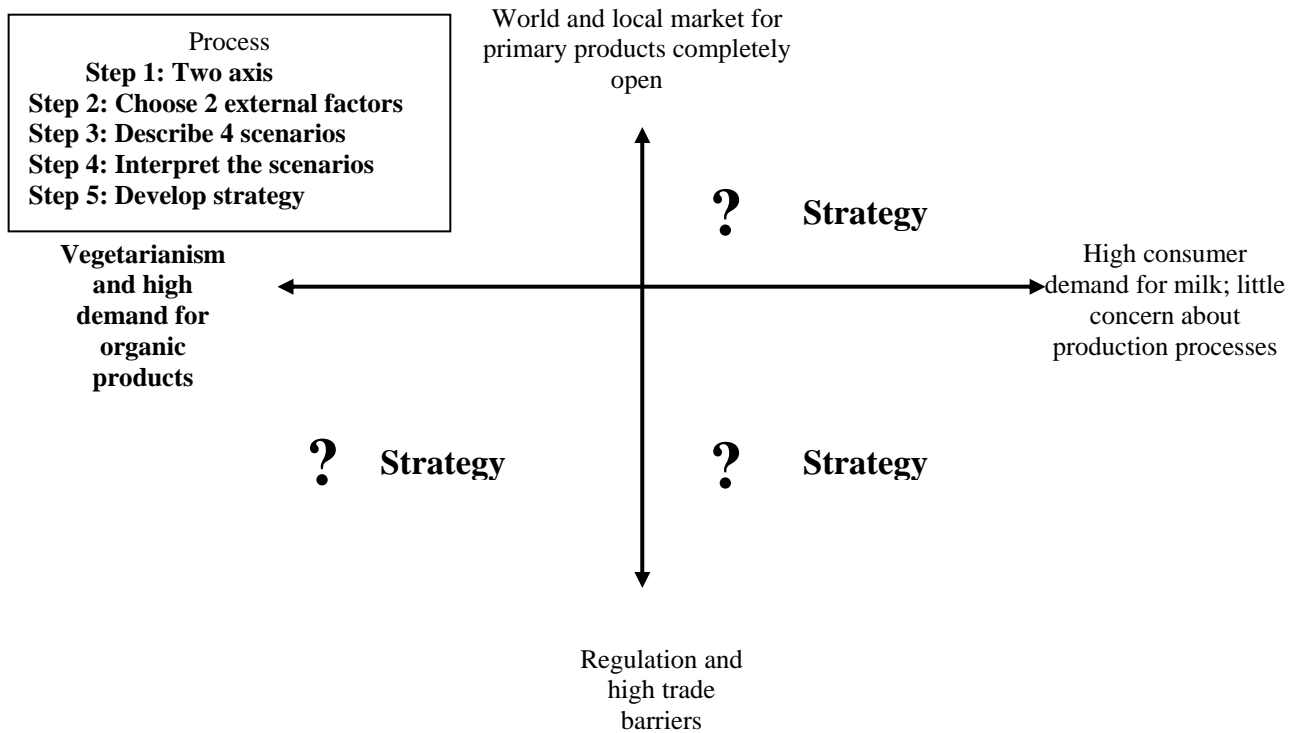


Figure 2. A farm strategy map illustrating the 'cause and effect' relationships in achieving farm business goals (Adopted from Kaplan 1999).



**Figure 3.** Illustration of the steps for developing a simple scenario planning framework (Modified from Campbell-Hunt 1997).

### **PRINCIPLE THREE: UNDERSTAND HOW THE EXTERNAL DRIVERS OF CHANGE IMPACT ON DAIRY FARMING**

The key ‘drivers’ on dairy farming must be understood to develop effective strategy. Milk production is part of a huge global food (and health) business and it is influenced by changes in this and other sectors. The following are some of the drivers of change in farming (Kennedy 1997, Parker 2000a):

- competition is increasing (although the high value markets for New Zealand dairy products continue to be heavily protected).
- customers are becoming more demanding (and have more information and choice).
- information (real time) is increasing (e-mail, telephone) and competitors quickly learn about your business to develop ways to “beat” you. Tom Peters (1997) summation of this: ‘Distance is dead!’
- system networks (relationships for knowledge) and new technology are vital for high performance.
- sectors are converging: telecommunications and farm production (herd records via Internet); food, fashion and entertainment; and health, well-being and lifestyle (functional foods, pharmaceuticals).

- people (human capital) make an enormous (and growing) difference to competitiveness – a business’s future can be measured in terms of the quality of, and investment it makes in, its people. Agriculture continues to struggle to attract the best minds, yet farming is becoming a technology-intensive and more intellectually demanding business.

Other factors that are driving change in farming include: the privatisation of intellectual property (particularly in the biotechnologies); the reconfiguration (generally shortening) of value chains (bringing the consumer closer to producers); and increased business risk (through increased climatic extremes and price variation).

There are also **internal drivers** of milk production such as indebtedness, personal motivation, age and health, and family circumstances. In New Zealand, sharemilkers with the dream of farm ownership are typically early adopters of new technology and heavily in debt. Once farm ownership is attained their aspirations often change toward family, business consolidation and off-farm interests.

## PRINCIPLE FOUR: ACHIEVE EXCELLENCE IN CORE ACTIVITIES

Recent research suggests a business should primarily focus in achieving excellence in one of three areas: product leadership, customer intimacy or **operational excellence** (Gautier, 1999). Doing fewer things better is another way of viewing this. In dairy farming operational excellence is required: there is one dominant product (milk) and one dominant customer (processor). The latter areas are important but not the primary focus of most dairy farms: cost effectively producing as much milk as possible with the resources available. Describing the steps in milk production provides the basis for making continuous improvement to farm performance through benchmarking (Parker 2000b).

**Benchmarking** involves the following steps:

1. Identify the areas requiring improvement – these should be measurable, and important to the farm's success.
2. Identify superior performance (at least top 5%) in other businesses (or parts of these) – these performance levels become the benchmarks.
3. Document what 'best practice' is by investigating and understanding the practices associated with processes, service and products that enable the benchmarks to be achieved.
4. Copy (and if necessary adapt) "best practice" to your farm in order to better meet its performance goals (ie, 'smarter' management, better use of technology). This will be modified to suit the manager's aspirations and learning style to ensure best practice uptake is achieved effectively and quickly.
5. Monitor and continuously improve the new or modified practice(s) to assure on-going performance improvement.

Benchmarking is not comparing a farm's production and financial values with the discussion group, regional or industry average or 'top' quartile. This is called 'comparative analysis'. It may provide some initial indication of areas that might be improved in the farm business, but this information can also be very misleading (Candler & Sargent 1962).

Best practice is usually related to a process (or processes) (Davis-Fogg 1998). A process is a set of activities that transform inputs into outputs. The activities are repeatable and can be described (defined). They have measurable inputs and outputs and are the basis of a farm's performance (e.g. converting pasture (input) into milk (output) is a process). A core process is one that is central to the farm's strategy. A farm's costs can be lowered by re-engineering or fine-tuning core processes. Continuous improvement is the systematic evaluation and refinement of processes (which become part of the farm's practice) in order to improve business performance.

In order to improve processes it is helpful to map out the steps involved in a diagram. Performance indicators along the process pathway should be

identified and benchmarks established for each of these (e.g. putting and taking cups off cows is a vital process on a dairy farm, and even a small change, such as dropping 'teat washing' (Ridler & Lowe 1979), can make an enormous difference to labour efficiency and production costs). Developing process diagrams also highlights how well the basic elements of the system being managed are understood.

Activity based costing (ABC) is a budgeting technique for assigning fixed and variable costs to an activity. ABC is an important tool of benchmarking, since it enables the actual costs of farming processes to be calculated. Loss-making activities can be discontinued or modified, while the most profitable activities can be expanded or further enhanced. It is common for some part(s) of the farm business to run at a loss (e.g. heifer replacement rearing), but it is important to know what these are so that their impact on profitability can be minimised. Kirton *et al.* (1994) described an example of ABC in dairy farming. The focus in dairy farm business is often on variable or direct costs (gross margin analysis) whereas fixed costs often provide the greatest opportunity to improve farm profitability. Everingham (2000), a NSW dairy farmer highlighted this as follows:

*There are only three areas where we can get significant economies of scale: labour, overheads and the cost of assets ...the greatest opportunity is to reduce our asset value per unit of production.*

To focus business improvement in these areas Everingham expresses costs relative to the revenue earned, for example labour is EFS/Labour cost (rather than a physical efficiency measure such as litres milk/labour unit) or in relation to assets as \$assets: \$EFS. The latter is a form of **Economic Value Added** (EVA) and accounts for the cost of capital employed in generating profit after tax (Shadbolt 1997). Too much capital invested in land or plant and machinery relative to the herd's ability to generate an operating profit is a common performance issue for dairy farms (Shadbolt 2000). As noted later, the way measures are expressed and monitored is critical to achieving continuous improvement in farm business profitability.

Why do farmers (and others) fail to adopt best practice once it has been identified? For benchmarking to work, the barriers to adoption must be overcome. Perhaps the most difficult challenge is to **unlearn past experience** (Kreigel & Brandt 1997). If a new practice is to be adopted, the 'old' one will need to be discontinued (forgotten). This is not easy since a practice is a well-established routine ('the way we do things around here' (Paine 1997), that typically is expertly carried out, probably with little conscious thought or effort. The new practice will need to be learned. For the first few times performance may be worse than for the existing practice. Perseverance with, and confidence in, the new practice will be essential if change is to be embedded (but only until something better becomes available!).

Two further points are worth noting in relation to 'unlearning'. First, the farms which have been most successful in the past (in part at least by having best practices) may find it more difficult to change than

those that have been less successful. Second, it is vital to learn from the beginning the correct way to apply the practice (Unlearning a 'bad habit' is tough!)

### **PRINCIPLE FIVE: MEASURE PERFORMANCE THROUGH THE RIGHT INDICATORS**

Measurement is a basis for communication about farm business performance and is a stimulus for making a change. The information derived from performance measures tells the owner (labour) how well the farm is doing relative to targets. Gaps between actual and target values are identified and this should prompt management action. This is the essence of the control function of farm management (Parker *et al.* 1997). Farmers favour subjective (visual, gut feel) and integrated measures (cow coat colour, body condition and brightness of eyes, for example, for 'cow health') (Parker 1999). These may prove to be satisfactory for an expert owner-operator farm with no staff and no debt, but when others get involved in the farm, management requires specific, quantifiable and regular information for quality decision-making. Further, as the demands on farmers by consumers of dairy products and the general public for audit information increases, so too will the need for approved on-farm measurement systems. For herd managers operational measures (MS per cow per day, pasture cover) are required (Parker *et al.* 1997). Owners, on the other hand, need to measure progress against strategic intent, and it is in this context that the **Balanced Scorecard** can add value to a farm business.

Kaplan & Norton (1996) developed the balanced scorecard to integrate strategic plans and their execution through performance measurement, and to assist organisational learning. The scorecard provides a balanced set of measures and, unlike the traditional focus on measuring productivity and financial performance, incorporates two other dimensions of a business. Thus, their scorecard comprises four broad areas: productivity and efficiency (internal processes), financial performance, customer and external perception, and learning and growth. An example structure for a scorecard is illustrated in Figure 4.

(See next page)

Having as few measures as possible (hence the concept of 'key' indicators (Shadbolt 1997)) is a guiding principle in designing effective performance measurement systems: Kaplan & Norton (1996) suggested 15-25 for a scorecard. These should focus on the factors critical to a strategy's success (i.e. the focus of measurement is on strategy, not tactics, and on the 'cause and effect' relationships that are hypothesised to generate outstanding performance). Further, the measures should: comprise a mix of **lag and lead indicators**; focus on the needs of the owners and/or other key stakeholders; and relate to specific targets defined in the strategy. The balance between lag (historical) and lead (future and predictive) indicators is important, since focussing solely on the past (e.g. accounts analysis) can generate completely irrelevant information for management decision-making (Kaplan & Norton 1996). Lead indicators for future dairy performance could, for example, revolve around the breeding worth of replacement heifers, the skill set for farm staff, and soil nutrient balance (lead indicator of pasture productivity).

<b>Learning &amp; Growth</b>	Goal	99 FY Target	Actual
Business skill development (d/yr)	5	5	
Holidays (d/yr)	14	10	
Health & Safety (breaches)	0	0	
Computer-based IT systems	90%	30%	

<b>Productivity &amp; Efficiency</b>	Goal	99 FY Target	Actual
Total MS production (kg)	95000	80000	
• Protein/cow/d (kg)	1.0	0.7	
• Lactation days	285	265	
Mid-point calving (days)	12	17	
Feed conversion			
• Pasture utilisation (%)	82	80	
• kg DM/kg MS	11	13	

Our Mission:  
 Financial success for family members through the marketing of high quality milk and livestock.

Our Strategy:  
 Efficient MS production with existing herd by optimising days in milk and daily yield of protein (type x) and grow revenue-base by investing in dairy processing and marketing.

Our Values:

- Quality family time
- Recognition for accomplishment
- Life long learning and personal growth
- Building for the next generation

<b>External Perception &amp; Environment</b>	Goal	99 FY Target	Actual
Milk quality (SCC, 000)	100	150	
Animal welfare	7 <sup>1</sup>	6	
Nutrient balance (%)	0	-10	

<sup>1</sup>Seven point scale: 1=bad, 7=excellent

<b>Financial</b>			
Net farm income/cow (\$)	700	500	
EVA (\$)	110k	45k	
• Farm	65%	100%	
• Off-farm shares	30%	-	
Feed cost (c/MJME)	12	14	
FWE/GFI (%)	40	50	

**Figure 4:** A balanced scorecard for a dairy farm (Source: Parker 1999).



In essence, these measures communicate 'today' how a farm is likely to perform 'tomorrow'. Lead indicators are most often associated with the 'learning & growth' activities. As explained earlier, the scorecard measures can be developed with the assistance of a strategy map (Figure 2).

### **PRINCIPLE SIX: LEARN FASTER THAN THE COMPETITION**

Reference has already been made in this paper to the critical importance of 'learning' to farm business performance. An increased emphasis in organisational learning has been advocated by Argyris (1991), Kreigal & Brandt (1996) and Porter (1997). How effectively staff learn new capabilities required to realise strategies is a lead indicator of future business performance (Norton 1999). Without a knowledge and understanding of new technologies or better management practice it will be difficult for farmers to make continuous improvement or a transformational change (e.g. trebling herd size to improve profitability and enable succession to children). Even where the base system of milk production remains similar over time, there is a demand for learning with respect to food safety, milk quality, environmental sustainability and animal welfare. Learning should be targeted towards the demands for future growth (and as noted below, life beyond dairy farming): for example, a course on computing is completed in the next 12 months so that software on 'special milks', provided through the Intranet, can be applied to herd breeding.

### **PRINCIPLE SEVEN: MANAGE YOURSELF, ESPECIALLY THE SECOND HALF OF YOUR CAREER**

A second aspect of learning is preparing for the 'second half of life' (Drucker 1999). People are living and working longer: it is even becoming less common for a farmer to retire from work at 65 years and hand-over the reins to one (or more) of their children. Preparing for a second career, or for a markedly different role to the day-to-day work of dairy farming is a sound strategy: the aims and aspirations of your partner are critically important here. The following extract from Drucker (*ibid.*, p. 65-66) encapsulates the key thoughts:

*Now most of us, even those of us with modest endowments, will have to learn to manage ourselves. We will have to learn to develop ourselves. ... And we will have to stay mentally alert and engaged during a 50-year working life, which means knowing how and when to change the work we do.*

*Most people think they know what they are good at. They are usually wrong. More often people know*

*what they are not good at ... One cannot build performance on weakness, let alone on something one cannot do at all ...*

*The only way to discover your strengths is through feedback analysis. Whenever you make a key decision or take a key action, write down what you expect will happen. Nine or 12 months later, compare the actual results with your expectations. ... Practiced consistently, this simple method will show you within a fairly short period of time, maybe two or three years, where your strengths lie – and this is the most important thing to know.*

*There is one prerequisite for managing the second half of your life: you must begin long before you enter it.*

Dairy farmers and their partners need to consider carefully how they will transfer the farm assets to children or exit the family entirely from farming. This requires a long-term plan. Drucker's counsel is that this should not simply be a legal and financial planning exercise (Thompson 1996), but also include personal development that allows a new career or interest to be taken up after dairy farming.

### **CONCLUDING REMARKS**

Dairy farmers may not like it, but they are involved in an increasingly competitive business environment. Technology improvements, new telecommunication tools and better management practices are available to all dairy farmers who care to seek them out. To become 'better and different' dairy farmers must build on their skill base in production management by adding capability in business planning and control. Seven principles that can help farmers do this have been outlined in this paper. They are well-proven in the non-farming sectors and are increasingly being used by farmers (e.g. Everingham 2000, van der Poel 2000) They are to:

- Develop an inspirational dream or vision for the business that provides direction, focus and targets to aspire to
- Use foresight to imagine the future and develop strategy to realise the 'dream'
- Identify and understand the drivers of change in dairy farming, and keep up-to-date with international trends in these areas
- Focus on what really matters to get results and achieve excellence in the core activity of milk production
- Identify the correct indicators for farm operational efficiency and for monitoring the execution of the farm business strategy
- Invest in personal development to ensure the knowledge, understanding and skills for future farm business growth are available when required

- Not neglect the need to plan and prepare for life after retirement from dairy farming.

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