THE HUMAN FACE

OF

ONCE-A-DAY MILKING

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SUMMARY OF RESEARCH PROJECT

This research project explores the impact of Once-a-day milking (OAD) on dairy farming families.

The following research questions were formulated:

- What changes happen in human terms when a dairy farmer converts from 'Twice-a-day' (TAD) milking to 'Once-a-day' (OAD) milking?
- Why did the farmers in the study change from Twice-a-Day to Once-a-Day milking?
- Were their expectations concerning the impact of the change on their personal lives, their families, the staff and the staff's families met?
- How did staff management practices on-farm change after conversion?

Firstly, dairy farming in New Zealand is placed in context, and some theoretical issues around farming as a way of life and a career are explored. The research format of the study is explained, and case studies of twenty dairy farms in the South and North Islands of New Zealand are presented.

Finally, some commonalities found in the case studies are examined and linked to theoretical propositions, thereby answering the research questions.

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CHAPTER 1.
THE DAIRY INDUSTRY IN NEW ZEALAND

1.1 Introduction

This report concerns exactly what the title *The Human Face of Once-a-Day Milking* suggests: the impact of Once-a-day milking on farmers, their families and staff. It is a document about people: their needs, values, and the creative ways in which they try to deal with the fiercely stressful and competitive environment that dairy farming in New Zealand has become. It is about the ways they protect their sanity while still working hard and getting the job done; it is about trying to be successful dairy farmers *and* good parents *and* caring children *and* contributing members of society *and* salvaging a little bit of "me" time. It is about hopes and dreams and reclaiming the joys and challenges and satisfactions of being a farmer by working hard but refusing to accept drudgery.

This report is not a "how-to" manual, nor is it a prescriptive report. There is some reference to farmers' experience of production and income, but this is qualitative rather than quantitative - it is simply a record of what farmers who have switched from the traditional system of milking twice a day to milking once a day have experienced.

How the report is organised

- In Chapter 1 there is a discussion of dairy farming in New Zealand to describe the context in which dairy farmers work. We also trace the history of OAD as it has unfolded since about 2000;
- In Chapter 2 we take a look at some theoretical insights that might be useful in understanding the problems farmers face;
- Then, in Chapter 3, we explain exactly what the research was all about: the research questions and the methods we used to find the answers to these questions;
- In Chapter 4 we report what 20 responding farmers, farm workers and their family members have told us about their experience of OAD;
- Chapter 5 contains summaries of this information and we try to identify commonalities and patterns that might be true of the larger population of farmers. We also link these results back to the more theoretical content of Chapter 2 so as to answer the research questions.

1.2 Dairy farming in New Zealand

1.2.1 The importance of the dairy industry in New Zealand

The dairy industry is New Zealand's top export earner.

Dairy farming is a major part of the New Zealand economy. In the year to June 2007 dairy exports alone were 25% of total merchandise export value. Dairy export value in 2007 was $NZ 8.41 billion, which is projected to increase to $NZ 11.68 billion in 2011 as

a result of higher volumes and prices. (Ministry of Agriculture and Forestry, 2007) These were produced by 3.8 million cows in 11,883 herds (Livestock Improvement Corporation Ltd, 2005 - 2006). Therefore, sustaining this production, and therefore also those who are responsible for this production, is of vital importance to the country.

1.2.2 The occupational structure of the dairy industry

In the five-yearly 2006 *Census of Population and Dwellings,* 24795 people were found to be working with a main occupation as dairy farming (Statistics New Zealand, 2006). The number of people employed as dairy farmers/dairy farm workers (*Occupation classification 61211*) had fallen from 29976 in 1996 to 26328 in 2001 to 24792 in 2006 (Tipples, Wilson, Edkins, & Sun, 2005; Wilson & Tipples, in press). Over the last 30 years the number of dairy farms has been decreasing but they have been becoming larger. There are now fewer small herds and more large ones. Stocking rates have become more intensive. As a consequence the occupational structure of dairy farming has been changing (Tipples et al., 2005).

With larger, more complex farms and herds more staff are needed and therfore greater management skills. Traditionally dairy farming, particularly in the North Island, was an occupation dominated by the self-employed without employees, whether owners or share tenants. Recently the numbers of self-employed dairy farmers has been declining and the numbers of paid employees has been increasing, as is shown in the following Table 1 which shows the percentages for each status in employment classification in recent census years. People are classified according to whether they are working for themselves or for other people - it is recorded for the main job only (Wilson & Tipples, in press).

Table 1

Census of Population counts for dairy farming by Status in Employment

Status	**1991**	**1996**	**2001**	**2006**
Paid employee	18	21	24	38
Employer	25	26	32	29
Self-employed and without employees	52	41	38	27
Unpaid family worker	4	10	5	5
Not stated	1	2	1	1
Total	100	100	100	100

Of note is that the "…large increase in employees is not matched by significantly increasing numbers of employers" (Wilson & Tipples, in press).

There has also been a profound ageing of the dairy farming population, with the relative share of the population aged less than 35-39 decreasing and that aged more than 45 increasing. "Over the…25-year period since 1991, the biggest change has been an increase in the 15-19 yr age group (from 4% in 1991 to 7.9% in 2006) and a decrease in the 25-29 yr and 30-34 yr age groups (from 13.5% and 16.9% to 9.4% and 12% respectively)" (ibid). Therefore, any strategy that makes it possible for dairy farmers to

extend their lives as farmers must be of interest. Further strategies to entice replacement farmers into the market are also needed.

The self-employed dairy farmer has been good at self-exploitation (or a bad employer, depending on one's point of view), working very long hours to do the work. With the increase in the number of employees, there has only been a slight diminution in the hours worked. The numbers working over 60 hours per week had been increasing over the previous three censuses (1991, 1996 and 2001) compared to the industrial norm of 40 hours per week (Blackwood, 2007), but in 2006 that trend reversed slightly.

1.2.3 Hours Worked by Status in Employment

The following graph shows the hours worked according to status in employment. Paid employees have the largest numbers in all the categories of hours worked, probably a direct result of the increase in employees within the dairy farmers/dairy farm workers population as a whole. Those working part-time (PT) and in the three categories of 50+ hours worked were most likely to be employees, followed by employers and then self-employed without employees, which follows the overall percentages in each status in employment category. The 30-39 hours worked category is the only one with similar status in employment numbers for the three main categories. Those working 70+ hours are also relatively similar for all categories of status in employment.

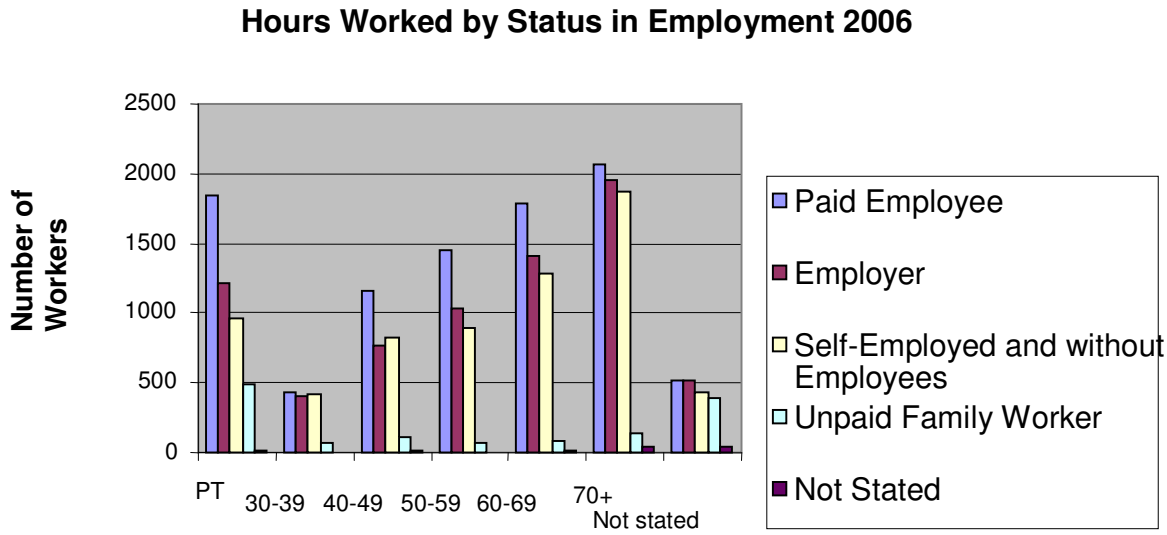

Figure 1 Hours Worked in Main Job

1.2.4 The dairy farm ladder

Self-employed owner-operators, family farms and husband-and-wife teams are still a major force in the dairy industry but as the farming population ages and herds grow larger, pressure to employ staff increases (Wilson & Tipples, in press). For farmers who are used to working alone or in a team with family members, being an employer could represent a major new challenge. The role of employer, legal employment requirements, assuming authority and dealing with general employment issues can be daunting.

In the past, particularly during periods of high unemployment, dairy farming has provided an employment opportunity for those strongly financially motivated. The 'dairy farming ladder' allowed a farm worker/milker to advance through share farming to eventual property ownership. That prospect today appears less and less attractive to entrants to the industry and financially more and more unrealistic. Also, there are now greater high level employment opportunities as herd and dairy farm managers, on good salaries, without the worries of being as heavily mortgaged as share tenants. These employment opportunities are most evident in non-traditional South Island dairy farming areas such as Canterbury, where many extensive pastoral farms have been converted to large intensive dairy farms, with the aid of irrigation. Overseas immigrants have helped alleviate this employment problem, but retaining dairy farm staff is still problematic. The situation has not been helped by the lowest levels of unemployment in New Zealand for over thirty years (Mutch, 2007).

1.2.5 Social sustainability of dairy farming

The New Zealand dairy farming industry has a vision of being 'World's best in dairying' and its purpose is: "To enhance the sustainable competitive advantage of New Zealand dairy farming". Sustainability is expressed in an imperative to: "Increase the efficient use of resources, reduce reliance on non-renewable resources, and minimise negative impacts on the environment". Social sustainability is not mentioned expressly but it appears by implication in another imperative: "Be an attractive career prospect for current and potential farmers" (Dairy Insight, 2004).

However, whether the industry will continue to be socially sustainable is an open question. As an area of traditional family business it is disturbing to find that while overall only 30 percent of family businesses survive to a second generation, some studies report succession rates as low as six percent for dairy farming (Lockhart & Reid, 2005) – perhaps an indication of an increasingly unacceptable lifestyle.

At the SIDE Conference in 2003 Peter Gaul delivered a paper titled "Keys to Unlocking a Better Life from Dairy Farming (Gaul, 2003). He acknowledged that dairy farming can be a rich, rewarding and satisfying career, but also that it has it's down side and stresses. In order to survive in the business, he recommended:

- Seek and maintain a balanced lifestyle
- Consider life as a wide picture
- Reward yourself
- Learn to recognise what you are good at, and what you enjoy
- Become a planner
- Address personal and character issues, including relationships

- Consider your support group.

The implication of these recommendations is that the farming lifestyle has to be actively managed- survival cannot be taken for granted.

Sustainability has many facets, but in this report the aspect of most concern is the danger of farmer burnout. No figures could be found to show how many farmers actually leave the industry because of burnout, but anecdotal evidence that burnout is a significant factor does exist (Hall, 2007).

1.2.6 The dairy farm labour crisis

Labour issues affect all farmers, their spouses (who most often help out on the farm even if they are not officially on the staff) and paid staff which could include full-time, part-time and casual staff. Labour shortages have dominated dairy farming news since the late 1990s, with problems being particularly acute in relatively 'new' dairy farming areas such as the irrigated parts of Canterbury, Otago and Southland.

The dairy farming industry has been proactive in promoting dairy farming as both a career and a lifestyle (e.g. the *Windows to Dairying, Let's talk Dairying* programmes), but it has failed to recognise that it has some major problems. In the past the sector has been renowned for bad employment relations and low pay (Tipples, 1987, 1995). The latter has been addressed but the cash nexus is not a sufficiently good basis for good employment relations.

The question of employment has many dimensions: availability of staff, the ability and inclination of the employer to manage staff, general manpower shortages in New Zealand, working conditions on dairy farms, and many others (Verwoerd & Tipples, 2004) . Tipples, Hoogeveen and Gould (2000) began to explore some of these issues in a limited way from 1997 in studies of psychological contracts of dairy farming employers and employees. They concluded that the two most important areas of difficulty were in the 'time environment' and the 'general work environment'. Employers (including those who employ only themselves) should be concerned particularly about the hours worked and the time-off given. These were the greatest areas of concern, yet the census the following year (2001) showed that the hours of work were actually increasing (Tipples et al., 2005).

Finding good staff, managing them well, and creating a satisfying work environment for staff is an ongoing problem for dairy farmers. This has been cited as one of the major strategic concerns facing farmers and constraining productivity and expansion (Searle, 2004). Any initiative that may create an incentive to accept employment, or impact on employment relations, is therefore of interest. What is not often mentioned, however, are the needs of the employing or self-employed farmers themselves. And if the normal, legitimate human needs of dairy farmers as workers in their own right are not met, the industry will lose them.

1.3 The emergence of OAD since 2000

Ironically the system change which could alleviate these problems may have already been used by some farmers for several years. It is called 'Once-a-Day' milking (OAD) to distinguish it from the regular practice of the industry of 'Twice-a-Day' milking (TAD).

Although farmers have used OAD milking as a farming strategy for many generations, this was seen mainly as a way of dealing with adverse conditions, feed shortage, bad animal health, or marginal pasture. Therefore, farmers being what they are, there was (and, to a large extent, still is) a perception that farmers who go to OAD are "lazy, incompetent blighters and a waste of space" (personal communication, 2005).

1.3.1 Anna Bayly's reports

As far back as 2002 Anna Bayly, working for Dexcel in Invercargill, produced a report, and subsequently a conference paper, on OAD milking (Bayly, 2002, 2002(a)). She followed this up with "OAD - how farmers are doing it? " (Bayly, 2003)

This early work was greeted with mixed emotions: disbelief, amusement, suspicion, tolerance but also with interest and excitement. She found "that farmers milking OAD were located all over New Zealand, were across a range of farm types and farm management policies…The lifestyle benefits were a key factor highlighted…" (Bewsell, 2005)

Bayly's initial report was comprehensive and many of her insights have since been confirmed.

1.3.2 Kuriger's SIDE Conference paper

Experienced, open-minded dairy farmers were, however, not put off by general disbelief. At the SIDE conference in 2003, Barbara Kuriger stated "..if the OAD regime proved viable for ordinary pasture-based dairying, it could provide enormous advantages for farmers. For instance, with a big herd going OAD, one could split the herd, milking one herd in the morning, the other at night… It could also prove a boon for farmers wanting to reduce their workload a little. OAD might enable them to remain farming for an extra 5 or so years….One big factor in the economics of it all will be: what does a farmer do with the extra 2-plus hours that used to be part of the working day?" (Kuriger, 2003).

1.3.3 Dexcel research

The researchers and consultants at Dexcel have been involved in OAD research since even before 2002. They have published many articles, of which only some are mentioned here.

In 2004, Dalley published, in conjunction with Aoraki Polytechnic and Livestock Improvement, a ground-breaking article on OAD milking. Most of this report deals with production aspects of OAD, but some mention is made of the advantage of OAD for farmers who struggle with "people management"- "these farmers might enjoy returning to a single owner-operator system". Likewise, OAD could represent an opportunity for escaping (some) of the daily grind of milking, or give scope to do a part-time job off the farm. The report states "One of the advantages is that where there is not the constraint of twice-a-day milking it makes work more flexible in terms of planning. This flexible time

(e.g. afternoons) can be used for family, leisure, or off-farm interests" (Clark, Dalley, Hoffmann, & Frost, 2007; Dalley, 2004).

She also mentions other possible advantages such as reduced stress, lifestyle advantages, improved labour productivity and the opportunity to seek alternative employment while still generating an income. However, the article makes it clear that these are possible, speculative advantages (Dalley, 2004).

Since then, researchers at Dexcel such as Dave Clark (Clark, 2004; Clark et al., 2007), and others have produced a great deal of research that can be found on the Dexcel website (Dexcel.co.nz).

1.3.4 Denise Bewsell's report

In 2005 AgResearch were contracted by Dexcel to identify farmer goals that were best suited for adoption of OAD milking in pasture based dairy systems (Bewsell, 2005). Bewsell surveyed 21 farmers using a convergent interviewing process. She found that the key factors motivating farmers to adopt OAD milking were:

- Herd expansion,
- Time needed to build capital,
- Labour management,
- Feed shortfalls, and
- Herd health and management factors.

Since then, the implications of OAD milking have been researched from production, animal health and process engineering points of view (Bewsell, 2005). Virtually all published research has been around financial and production effects, with only passing reference to supposed personal benefits, and very little has been done or said about the possible effects of OAD milking on the lives of dairy farmers and their staff, and the families concerned.

This report is soon to be internationally published under the title *Understanding motivations to adopt once-a-day milking amongst New Zealand dairy farmers* (Bewsell, Clark, & Dalley, 2007).

1.3.5 Rakaia Island Dairies

This large (5000 cow) dairy farm near Southbridge in the South Island, in the 2004/2005 season selected OAD as a management tool "to grow the business. It was purely a business decision with significant benefits for the farm, this includes both the staff and the owners." (Rakaia Island Dairies Ltd, 2005)

For the staff, the following benefits were reported:

- more sociable work hours

- less time in the cowshed

- new challenges

- new and different management techniques

- new technology."

"Milkings start at 6 am, and during the spring, take until between 12 and 1pm, breakfasts are taken during this time to further reduce the time spent in the shed. As the season progresses we see these times speeding up as the cows come off their peak. It is management policy to see all staff home by 5.30pm, and again we see this becoming earlier after mating has finished. Staff are encouraged to take up new hobbies to enjoy the extra time with."

"The whole OAD system presents new challenges to the staff in how we manage the OAD cow. It can be quite different to the conventional farm management methods adopted on most NZ dairy farms. Learning what drives a OAD cow, her appetite, milk production, health, fertility, suitability etc. are all areas that are new and exciting" (Ibid).

1.3.6 New Zealand Dairy Exporter

This magazine has consistently reported developments in OAD. Over a period of 7 years reporters such as John Waugh, Anne Lee and Fritha Tagg have shown a keen interest in all aspects of OAD milking (Lee, 2005; Tagg, 2007; Waugh, 2005).

1.3.7 The LIC Conference on OAD in 2007

Finally, the OAD Milking Conference in Hamilton in 2007 attracted 130 farmers interested in OAD milking. At the Conference 12 papers on various aspects of OAD were presented. This was an important event because this was the first time that OAD farmers came together as a defined community. Topics covered included:

- Milk Production from Once-a-Day Milking (Clark et al., 2007);
- Reproductive Performance of Cows Milked OAD (Dalley, Clark, & Bateup, 2007);
- Does OAD Milking Improve Animal Welfare? (Tucker, Dalley, Kendall, & Clark, 2007);
- 3 Milkings in 2 Days (Boyce, 2007);
- Social Impacts of OAD Milking (Tipples et al., 2007);
- Mastitis, Somatic Cell Counts, Animal Health and OAD Milking (Dalley, Lacy-Hulbert, Turner, & Turner, 2007(a));
- Can You Make Money Milking OAD? (Anderle & Dalley, 2007);
- Strategic Use of OAD Milking (Reveley, 2007);
- The Genetic Improvement of Cows for OAD Milking (McPherson, Pryce, & Winkelman, 2007);
- Effect of Nutrition on OAD Milking (Dalley, 2007);
- OAD Milking: Surveys of Farmer Opinion (Gatley, 2007);
- Milk Vat Refrigeration Requirements for OAD Milking (Woods, 2007).

CHAPTER 2.
Theoretical base of research

2.1 Introduction

In this chapter we explore some of the theoretical work that relates to the issues farmers face. "Theory", in this case, does not mean useless or impractical; in fact, the theoretical underpinnings we have chosen not only form the basis for understanding the significance of what farmers told us, but also is vital for the wise formulation of future strategies and policy. Four theoretical angles are discussed briefly:

- Change management;
- Work-life balance;
- Maslow's needs hierarchy and
- Stress and distress.

2.2 Managing change on a dairy farm

When farmers decide to change a traditional or significant part of their farming practice, they may not be aware of the theory of change management. However, the following ideas will still be represented in their thinking.

Change management theory suggests that two sets of factors need to be present for change to take place:

- a *change of attitude and/or thinking*, and / or
- a *burning platform* (Kotter, 1995)

2.2.1 A change of attitude or thinking

All human beings are at least partially resistant to change because new ideas represent risk. The more complex the system to be affected, the higher the risk. It is therefore appropriate for a farmer to be careful and conservative when considering new ideas. However, as a new idea gets thought about, talked about, and worked through in the minds of decision-makers, the advantages and disadvantages of a new scheme also become clear.

This effectively means continually looking for a better way to do things. Working hard and thinking smart have always been the key to gaining a competitive advantage.

For dairy farmers who employ staff, a significant change of attitudes towards employment has been discernible. There has been growing concern and interest in being

a *good employer* and in creating an attractive work environment. This humanistic aspect of employment relations is not new but it has gained impetus in recent years, especially as an employer response to the adverse labour market, when employers can gain a competitive advantage in recruiting by providing better working conditions.

2.2.2 The burning platform

The image of a burning platform (i.e that urgent factor that forces one to jump) has been part of change management theory since about 1993.

"The term "burning platform" is a mainstay in business lexicon for many years. For those not familiar with its origin, the story goes something like this:

A man working on an oil platform in the North Sea awakened suddenly one night by an explosion. Amidst the chaos, he made his way to the edge of the platform. As a plume of fire billowed behind him, he decided to jump from the burning platform even though jumping is a risky option for the following reasons:

- It was a 150-foot drop from the platform to the water.

- There is debris and burning oil on the surface of the water.

- If the jump into the 40°F water did not kill him, he would die of exposure within 15 minutes.

Luckily, the man survived the jump and was hauled aboard a rescue boat shortly thereafter. When asked why he jumped, he replied, "Better probable death than certain death." The point is the literally "burning" platform caused the radical change in his behavior" (Embley, 2005).

It is conceivable that an individual farmer could reach a point in his/her career where the disadvantages of farming outweigh the advantages, when personal needs are not being adequately met, and he/she reaches burnout point. When the current situation becomes intolerable, something has to change. One such possible change is switching to OAD milking.

For other farmers, the burning platform has been, and is, the growing shortage of suitable labour. In order to be seen as an attractive employment option, some farmers are considering OAD milking to attract staff. It is clear that simply escalating wages no longer suffices to attract good staff, but it could be felt that the prospect of a more balanced lifestyle might entice good, keen workers into dairy farming.

2.3 Theory of work and work-life balance

In August 2003 the Government established a Work-Life Balance Project to develop policies and practices promoting a better balance between paid work and life outside of work. The vision of the project is that 'New Zealand is a great place to live and work'.

The Minister of Labour established a steering group, led by the Department of Labour, to oversee the project.

There has been increasing concern about how to achieve a work-life balance. It is probably fair to say that everyone encounters issues of combining paid work with the other things that matter to them at some stage of their lives. It is also clear that farmers, particularly dairy farmers, face significant barriers to achieving balance in their lives.

2.3.1 What is work-life balance?

Case studies by UMR Research (UMR Research, 2003) identified three components that need to be in balance to achieve a healthy lifestyle:

- paid work,
- unpaid work, and
- personal time.

Personal time in particular was found to be complex, and was frequently the most easily sacrificed element in the work-life balance 'equation'.

> ***"We've all been standing on one leg for so long that we actually believe we are balanced because we can't remember what it's like to be on two feet anymore."***
>
> ***(UMR Research, 2003)***

One of the main points to emerge was that there is frequently no easy separation between work and life, and some see the distinction as being somewhat artificial. The following paragraphs summarize findings that are relevant to the lifestyle issues faced by dairy farmers.

- **Rural people**

Many people working in rural areas are self-employed farmers and have similar work-life balance issues as other self-employed people. But for rural families work-life balance also had specific meanings. The necessity to travel distances to get children to and from school transport emerged as a theme, as did a lack of suitably skilled people to relieve farmers so they can take a break.

- **Workplace issues**

Work hours and work intensity were cited in a large number of submissions, with stress being seen as the manifestation of imbalance. Long working hours appeared to be the most significant issue.

- **Recreation and leisure**

Recreation and leisure was discussed by individuals as something that people prized highly in order to manage their work and home lives, and to avoid burnout.

- **Work-life balance for families**

Family formation appeared to be a factor that many people linked with work-life balance. The time crunch for many people juggling work and family life, especially those with families, meant that time by or for themselves completely disappeared. Tiredness, exhaustion and frustration were commonly cited as the result of such imbalance.

- **Community and voluntary sector concerns**

Community and voluntary sector concerns expressed in the consultation revolved around the inability of voluntary organisations to keep and attract volunteers. This is relevant to dairy farmers in areas where dairy farming is the major style of farming, and voluntary organisations such as fire brigades have real difficulty finding helpers.

- **Flexible hours**

Access to flexible working hours was the most frequently identified work-life balance practice that people had, while a large number of people stated they would like greater flexibility. Many submissions noted that access to flexibility was highly valued and made it possible to manage family and work life.

- **Benefits of work-life practices**

Employers and human resources practitioners identified a range of business benefits associated with work-life practices, including loyalty, trust, quality of work, and productivity.

A clear message in the project is that work-life balance is not a 'one size fits all' issue. Its meaning for people changes at different stages throughout life, and often in response to milestones during the course of life.

> ***"I believe people are far more productive in their working hours if they are well rested and have their out of work needs met well. That is, they have ample time to spend with their children, their community (for example, coaching a sports team) and still can work sufficient hours to keep food on the table"***
>
> (UMR Research, 2003).

An important point that came through strongly in the UMR case studies was that it often took a crisis before people put coping strategies in place. Several people told stories of major life events that had forced them to re-evaluate their working lives, and others noted lost relationships or other negative outcomes through not having taken steps to resolve work-life balance issues.

2.4 Stress and distress

The difference between stress and distress is the effect on the person.

S*tress* enhances function (physical or mental, such as through strength training or challenging work) and could be functional because it generates and focuses energy on the task at hand.

Distress occurs through persistent, unresolved strain that does not culminate in achievement. This can harm the physical and mental health of the person experiencing distress and, at best, lowers productivity because energy is actually used to maintain the distress (Kahn & Le Schack, 2006)

Stress and distress can be seen as analogous to work and drudgery. Stress (work) should, ideally, be challenging, productive and culminate in achievement. Distress (drudgery) removes choice, de-energises and dulls the senses (Deary, Willock, & Mcgregor, 1997).

Dairy farming is often cited as a high-stress environment, which means that there is high expectation of achievement. Federated Farmers recently stated that there is a growing recognition that farmers experience some of the highest levels of stress compared to their counterparts in the service or manufacturing sectors (Federated Farmers, 2006). Firth found that time pressure, government policy and procedures and unpredictable factors such as weather were the main stressors on farms (Firth, Williams, & et al, 2006), while Deary cited six main stressor areas:

- Farming bureaucracy;
- Financial issues
- Uncontrollable natural forces;
- Time pressures;
- Personal farm hazards;
- Geographical isolation (Deary et al., 1997)

Some research has been undertaken to study the ways in which farmers deal with stress e.g (Alpass, Flett, & et al, 2004; Booth & Lloyd, 2000; Keating, 1987; Wallis, Dallas, & Ranzign, 2003) but these authors are all working outside New Zealand and it is not clear whether their findings will apply to New Zealand farmers.

Not much recognition has been given to issues of distress and drudgery on dairy farms. Given that stress and distress on dairy farms exist, on whatever level, our study set out to discover whether switching to OAD milking impacted on the nature and level of stress and distress.

2.5 Maslow's needs hierarchy

Maslow's Hierarchy of Needs is a theory in psychology that Abraham Maslow proposed in his book "Motivation and Personality" (Maslow, 1987) .

Maslow's hierarchy of needs is often depicted as a pyramid consisting of five levels: the four lower levels are grouped together as *deficiency needs* associated with physiological needs, while the top level is termed *growth needs* associated with psychological needs. While deficiency needs must be met, growth needs are the needs for personal growth. The basic concept is that the higher needs in this hierarchy only come into focus once all the needs that are lower down in the pyramid are mainly or entirely satisfied. Once an individual has moved past a level, those needs will no longer be prioritised. However, if a

lower set of needs is continually unmet for an extended period of time, the individual will temporarily re-prioritise those needs - dropping down to that level until those lower needs are reasonably satisfied again. Innate growth forces constantly create upward movement in the hierarchy unless basic needs remain unmet indefinitely.

Deficiency needs
The first four layers of the pyramid are what Maslow called "deficiency needs" : the individual does not feel anything if they are met, but feels anxious if they are not met. The deficiency needs are:

- **Physiological needs** consist mainly of eating, drinking, sleeping and sex. If these needs are not met, people feel sickness, pain, and discomfort, and functioning is impaired.
- **Safety needs** usually emerge after physiological needs are met, and the person's energy is channelled to ensure the safety and well-being of self and others.
- **Love/Belonging/Social needs.** After physiological and safety needs are fulfilled, the third layer of human needs is social.
- **Esteem needs A**ll humans have a need to have self-respect, and to respect others.

Growth needs
Though the deficiency needs may be seen as "basic", and can be met and neutralised (i.e. they stop being motivators in one's life), self-actualisation and transcendence are "being" or "growth needs" i.e they are enduring motivations or drivers of behavior. Self-actualisation is the is the instinctual need of humans to make the most of their abilities and to strive to be the best they can. These needs are fed by meeting challenges and achieving goals.

The research program was designed to explore which levels of needs (if any) of dairy farmers were not being met, and what the effect of the resultant dis-tress was in the person and family; also, whether switching to OAD milking changed this picture at all.

CHAPTER 3.
Research model used

3.1 Introduction

In this chapter the research model used in this study is described. The research design is explained, and the specific research questions posed are formulated. Finally, the methods of data gathering and the methods of data analysis are shown.

3.2 General methodological background

The general methodological approach followed was qualitative research using, in particular, the case study method. Yin (1994) has shown that the case study should be defined as a research strategy, an empirical inquiry that investigates a phenomenon within its real-life context. Case study research means single- and multiple case studies and benefits from the prior development of theoretical propositions. He points out that case studies can be based on any mix of quantitative and qualitative evidence. We used an embedded multiple-case design (Yin, 1994). Because so little empirical work has been done on the topic of OAD, a descriptive mode of research was followed.

3.3 Components of research design

In this project, four components of the research design were considered of particular importance:

1. the study propositions or assumptions underlying the research (including explicit and implicit values)
2. the research questions
3. the units of analysis
4. the criteria for interpreting the findings.

3.3.1 The study propositions or assumptions underlying the research

Study propositions are assumptions that are used as a starting point on which to base the main, logical argument. There were three sets of value-based assumptions guiding this research project:

- The first value-based assumption made was that farming is an activity that is conducted for the benefit of people. A farm is a place where people live and work, where food is produced, and where needs are met. A farm is not, in the first instance, about nature or animals or the economy.
- The second basic value which was assumed for the purpose of this project is that decision-making on dairy farms is basically intended to be benevolent. Farmers do not normally take conscious decisions that will jeopardize or impact negatively on the well-being, safety or happiness of the people on the farm. Although making decisions is prone to the same flaws as all human activity, we accept that decision-

makers do the best they can with the information, knowledge and wisdom they have available.
- Work-life balance assumes that achieving a balance between working hard and living well is a goal worth striving for.

3.3.2 The research questions

This work is done on a descriptive level and therefore research questions rather than a hypothesis were formulated:
- What changes happen in human terms when a dairy farmer converts from 'Twice-a-day' (TAD) milking to 'Once-a-day' (OAD) milking?
- Why did the farmers in the study change from Twice-a-Day to Once-a-Day milking?
- Were their expectations concerning the impact of the change on their personal lives, their families, the staff and the staff's families met?
- How did staff management practices on-farm change after conversion?

3.3.3 Units of analysis

Units of analysis were dairy owner-farmers and their families, staff and staff families on farms that have moved from TAD to OAD milking. Respondents were approached as unique individuals, not as sampling units and were not chosen for this reason, but rather because they were able and willing to offer rich insights into their personal experiences.

3.3.4 The criteria for interpreting the findings

The theoretical underpinnings of the project (noted in Chapter 2) not only guided the interviews, but also guided the interpretation of the findings. However, because each respondent and each farm is unique in terms of human experience, the information that farmers provided was simply taken at face value.

Triangulation can be a problem when using case studies. Because this study was conducted on a descriptive level, and because no attempt was made to generalize the information provided, triangulation was restricted to probes during interviews. Probes were used to clarify seemingly contradictory information, but for the rest the respondents were encouraged to report their experiences in their own words.

3.3.5 Respondents

LIC provided a list of OAD farmers who had previously indicated a willingness to participate in research. This list contained the names of 67 farmers: 8 in the South Island and 59 in the North Island. However, not everybody was available at the times when the interviewer visited their area. For financial reasons it was decided to interview all available South Island OAD milkers, and as many as possible in Northland and Waikato. Eventually, 20 farms were visited: 6 in the South Island, 6 in Northland, and 8 in Waikato. The interviewer had no prior knowledge of a farm before her visit.

In each case, an introductory letter explaining the project was posted to respondents (see Appendix 1) and followed by a telephone call about a week later. During this call a date

and time for a visit was arranged, if the respondent was able and willing to be interviewed. (As a point of interest, only one request for an interview was flatly declined, although some respondents were unable to help us because of various personal circumstances).

Before commencing the interview, each respondent signed a consent form as required by Lincoln University (see Appendix 2). Respondents had their attention explicitly drawn to the fact that recording equipment was used. The interview schedule is attached as Appendix 3.

After each interview, respondents were thanked by letter (Appendix 3). All respondents will also receive a complimentary copy of this report.

In only one case was an interview dropped from the analysis and replaced by another, when it became clear that they were not, in fact, milking OAD.

3.3.6 Method of data gathering

The primary method of data gathering was case studies based on personal interviews of as many people on the farm visited as possible. This included the farmer, his/her spouse or partner when available, adult children working on farm, all available staff members, and where possible grandparents or members of the extended family living on farm.

The advantage of this approach is that interviews are a far more personal form of research than questionnaires and unlike mail surveys, the interviewer has the opportunity to probe and follow up interesting or unexpected points of view. Interviews are generally easier and more interesting for respondents than written questionnaires, especially if what is sought are opinions or personal experiences.

The disadvantage of the case study method, of course, is that interviews are time consuming and they are resource intensive.

3.3.7 Time plan

The following milestones were developed to schedule the project:

Milestone number	Tasks	Date for completion
1	Complete study of research theory Complete study of OAD milking Prepare budget Prepare research proposal	**31 October 2006**
2	Prepare presentation with RST Attend LEW Conference in Wellington Interview experts Attend first meeting with RST and BG to review progress Develop Working Spreadsheet Attend SIDD meeting Complete literature review	**30 November 2006**
3	Develop interview schedule	**31 December 2006**
4	Initial testing of research instruments Complete application to Ethics Committee Complete theoretical work with RST	**31 January 2007**
5	Do pre-test Do pilot study First contact with respondents Make appointments with all final respondents	**28 February 2007**
6	Complete all Westland interviews Complete Westland interview notes	**31 March 2007**
7	Complete all Canterbury interviews Complete Canterbury interview notes	**30 April 2007**
8	Complete all Northland interviews Complete Northland interview notes	**31 May 2007**
9	Complete all Waikato interviews Complete Waikato interview notes	**30 June 2007**
10	Data analysis	**31 July 2007**
11	Complete report , submit to DI, LIC and Lincoln University	**31 August 2007**
12	Media coverage and website contents	**30 September 2007**

As it turned out, this schedule was followed successfully although it was decided to hold back posting of the report to respondents until October to give them time to recover from the spring calving time.

3.3.8 Recording procedures

All interviews were digitally recorded and the interviewer took notes during interviews. Directly after each interview notes were cleaned up and systematised, and digital records were downloaded on computer and backed up on CD.

The digital recordings turned out to be less useful than the notes. Recording an interview where people come and go, the phone rings, there might be a parrot squawking in the background and rain hammering down on a corrugated iron roof tended to compromise the quality of the recording. Fortunately the interviewer was experienced at taking down interview notes verbatim without losing eye contact or getting lost in the conversation.

3.3.9 Methods of data analysis

Data will be presented in two ways:

- as case studies, and
- as a pattern analysis incorporating the theoretical underpinning of the questionnaire

3.3.10 Planned reportage of results

The report will be made available to:

- all sponsors
- all respondents and other dairy farmers who have requested a copy
- all academics, students and researchers at Lincoln University and consultants who work in the dairy industry
- other stakeholders in the dairy industry such as Dexcel, Fonterra, and the Dept. of Labour
- relevant media
- the report will also be published on the website www.ruralemploymentrelations.org.nz

CHAPTER 4.
RESEARCH RESULTS

4.1 Introduction

This chapter contains 20 case studies, one of each farm visited. In cases where more than one respondent was available, the information is collated.

4.2 Case studies of farms visited

Case study : 1

This lovely old Waikato farm of 186 hectares carries 680 Jersey cross cows. The respondents, a couple in their fifties, are owner-operators. Their children are independent. The family have been here since 1919; each generation has expanded the farm. They used to run sheep and/or beef, and converted to dairy farming 20 years ago. The farm is well-developed but steep.

The owners have a variable-order sharemilker, his wife, and he employs one other couple. This totals 4 staff, the equivalent of 3 full-time staff. The owners set standards and policy, advise and encourage, but have little hands-on involvement with the farm.

The owners switched to partial OAD milking 6 years ago, and they have now had 4 seasons on full OAD.

They acknowledge that the farm is run for profit; it is the way they make a living. However, they are also deeply committed to the welfare of the people on the farm. This means not only treating them fairly as workers, but actually encouraging them to be good parents, to live fulfilling lives, and to develop their human potential. This would not be possible if staff were working the very long hours typically expected on a dairy farm. "We have excellent staff and the relationships are good. But: they were working too hard, we wanted to give staff a normal life. We did not think we could encourage them to be good parents, for instance, if they were overworked and never had time for their families".

When they switched to OAD, they kept staff numbers exactly the same as before. "We did not cut staff, although some moved on and have been replaced. We find we have to encourage them to move on, for the sake of their careers, but they are resistant".

Production went down a little until they increased herd size by 17%; since then they have regained production at pre-OAD levels. However, income has increased despite a generous level of staffing. Empty rates are under 8% and, overall, somatic cell count has gone down from 300k (4 years ago) to 150k last year.

They did not feel they were taking a risk by moving from TAD to OAD. "I knew it would work from our own trials, knowing my cows, having new technology available…I had taken note of Dave Clark's trials.."

Both partners emphasize that OAD generates much less stress on the farm, which is also lower for staff and their children. “Work is a means to living, it shouldn’t be everything. I have a pretty good life” (Wife) “We did not like watching families go to pieces. Now we can encourage, even demand, good parenting” (Wife).

Staff management

Staff management practices have not changed much. “We essentially select people we like to work with, can respect and get on with- this hasn’t changed. However, it is much easier to get relief staff”.

As far as staff wages are concerned, the sharemilker “is on a percentage.” Other staff are paid a salary, not by the hour. The staff’s net income has increased on OAD (made possible by higher farm income) but they have more time off, and much more flexible working hours. This gives everybody some free time and choice on how to use it.

For new staff, there is a staff orientation period aimed at “getting it right the first time because we only see cows once a day”. Staff morale is high “ because pressures used to get on top of them. Everything is easier if you are rested.”. “We have always taken them out for dinner, they have been welcome at home ... but now there is an extra element of ‘us’ because of OAD”. For instance, staff wear “uniform” caps proclaiming this is an OAD farm.

As far as safety on-farm is concerned, there have not been any formal policy changes, but attention to detail and being grade free is always a priority. The farm has always been safe, but “there may have been a small decrease in small accidents”.

They find that staff concentration, attention to detail, and decision-making ability is better “ because we are all well rested”.

Absenteeism is down: “we got a perfect record this year”.

There is very little conflict among the staff, although this has to do with many factors besides OAD. However, “everybody is happier, more relaxed, able to use free time to have a life”.

Future plans

This couple plans to continue the current system and OAD. “We haven’t changed our mindset- we still strive for excellence. Our mindset is still to produce in the top 10% of dairy farmers. The big difference is a more normal life”.

Negative aspects of OAD

Our respondents noted the following negative aspects to OAD:

- longer milking

- tanker pick-up times can be difficult

- OAD is not so easy to fit into a high-input system. More research is needed for this, more trial and error needed.

Case study : 2

This Waikato farm of 77 hectares carries 290 cows plus replacements. The cows are Jersey crosses, selected for OAD.

The farm is owner-operated. The owners are a young couple; he milks and runs the farm single-handedly, she is the homemaker and takes care of their 4 young children. This is rolling countryside; it is a high-input farm, which they bought 10 years ago in a very run-down state – "it was one of the worst around". There is still a great deal of building and development going on. Life is rather over-full, and our respondent stresses that without OAD he could not run the farm single-handed.

The couple partially switched to OAD 10 years ago, and fully 5 years ago. "We increased the herd to 300 cows (on TAD) because I thought I could make more money, but milking TAD just wasn't sustainable so I went to OAD full-time. The benefits have since then become more apparent." In spring he milks in the afternoon. This makes it possible to have breakfast with the family, and get high-priority tasks done in the morning. "We had been milking OAD part-time for a while, and the herd had been bred for OAD. The Taranaki trials gave us more information. So, we just went for it!"

On OAD total production has gone up because of more cows, but yield per cow has not changed (about 350kg ms per cow). They are financially better off on OAD but not a lot, probably because he developed this farm himself, with an eye to OAD, and works alone, therefore the savings have not been very significant. The farm was designed to be efficient. However, he does save on staff because having a relief milker on OAD is cheaper than hiring staff.

One of the things all respondents were asked about was their reasons for being a farmer, and the values that support their farming decisions. This farmer's response was "I don't enjoy town life. I value the peace, being my own boss, and I love my animals". His wife said "I love the lifestyle, and the fact that we are both involved in bringing up the family". Their value system centres around balance: "To get 4 sets of things in balance: grow as much grass as possible, feed cows well, care for the environment, promote the welfare of the family.

The couple report their main source of stress has been (understandably) too much work, too little time. This is because the farm is still being developed. However, since moving fully to OAD there is much less stress. This has less to do with the amount of work they do, than the fact that there is choice and opportunity to prioritise: "To do what you want when you want".

"OAD has made life more enjoyable for both of us. We enjoy having have evenings free. We share parenting and have evening meals together. I would rather sell the farm than go TAD."

Both sets of grandparents are still alive. His Dad helps out as relief milker – "he wouldn't do it TAD" but being involved in the farm "keeps him going". There is more time for conversations, lunches together with grandparents, and doing things together. "They (his parents) like it (OAD)".

Safety

Asked about safety on the farm, the farmer responded "Yes! It is certainly safer for the cows- they stay alive for longer. For me, also, it is safer. I am not working so much in the dark, there is less stress to get the milking done, and I get more sleep, therefore I make less mistakes". Concerning concentration, he added "Yes, I concentrate better. This means better thinking, better decisions. Flexible time means choice and this motivates me".

Would you recommend OAD to others?

"Yes! I would rather sell the farm than milk TAD".

"Moving from TAD to OAD is a "no-brainer" but "the steps have to be planned".

However, he stresses that there are issues of human wisdom and human nature here. Farmers will initially benefit from a move to OAD but he feels they will probably revert to old bad habits by using freed-up time unwisely.

"Yes, there is an 'instant' gain in OAD but I am sure that farmers, being human, will squander these advantages. These gains are for humans- the stresses on the cows are the same on TAD and OAD."

Case study: 3

This quiet Waikato farm of 363 hectares carries 200 cows plus replacements and small numbers of other animals. The cows are crossbred, and have been selected for tolerance to wet conditions. "We are in grass. It is a low input system". The farm is run by the husband and wife owners. Their 3 adult children are independent, and they have no staff.

The couple switched to OAD 4 years ago. Ironically, the reason for switching was "mismanagement. It was a bad, wet spring and we were in trouble. Dexcel suggested we do it. We did it (OAD) as a temporary measure, and stayed with it. It was a risk, but we really had no choice. I investigated the Dexcel stuff, and added 9 (expensive!) cows which turned out not to be necessary".

For this couple, farming is a way of life. She grew up on a farm, and always wanted to be a farmer: "It is a profitable way to live. I've been at it since I was 16. It suits us".

He says: "I like being my own boss".

Business decisions are taken jointly, keeping in mind all husbandry aspects and the financial implications, but her soft spot is the animals.

They have maintained production and income, mainly because of savings on staff.

Dealing with stress

Stress is created by wet weather, cows pugging, and an inability to do things the way they want to. She may respond by becoming quiet and withdrawing into herself; he says he smokes too much when he gets stressed. They can talk a problem through and make a plan, but on OAD stress has been minimised. She says: "Work-life balance becomes very

important as I get older. OAD has aided that". The main advantage on OAD is that farming is much more straightforward, and they have time to spend as they wish. They still work hard, but the drudgery has gone. However, "on OAD you have to concentrate- you only get one chance".

On the family effects of OAD, she said OAD "has enhanced our marriage. We have more quality time together. Also, we are healthier- I have time for horse-riding, and (her husband) has lost weight. " More flexible work hours also means that she can visit her mother who is in a rest-home.

"We will probably stay on the farm longer. A time may come to change our style of farming but land values are going up and living here suits us."

Would you recommend other farmers consider going to OAD?

She: "Yes. Unquestionably. However, it won't suit everyone".

He: "Don't tell everyone!"

Case study: 4

This Waikato farm is quite close to a large town. The owners bought the farm 8 years ago and brought up their family here. Now the children have all left home.

The flat 84 hectare farm, carrying 340 Jersey cross cows selected for OAD, is wet. Very wet. It is also bisected by a rural road. Since switching to OAD, they no longer employ staff except for an occasional relief milker.

The couple switched to OAD on Christmas day 6 years ago. "We used to go to OAD after Christmas, it worked well for us, so we decided to do it full-time. At calving we milk in the afternoon". This couple has chosen to limit their growth to avoid taking on staff because they value their privacy and prefer to be independent.

It was staff problems that tipped the scale: "We were sick of staff issues, and staff living with us. There had to be a better way! However, we did get some funny looks and remarks about being lazy".

They acknowledge: "Yes, it was a risk- we thought the cows might be dry by next Christmas. Some cows did dry up. We read everything we could find but it was not very helpful. However, our farm advisor was very supportive and helpful, visited and gave us information every 6 weeks."

On a personal level, they enjoy the farming lifestyle. The farm has been a good place to bring up a family, and now that the children are independent the combination of living on a farm but near a large town gives them lifestyle choices and different options. Work-life balance is important. She has taken the occasional part-time job in town, he enjoys being self-employed and "doing what I want". She: "This is really important to me- to be able to go off and do things as a family. Also, not being too busy. I have been able to do a part-time job which I really enjoyed. On the farm my role is really as "gopher" which is fine, but I needed something for myself"

He: "On TAD I had no work-life balance. On OAD I got it"

How has life changed under OAD?

The couple stated that they still get up early and milk at 5.30 am. Why, then, did they feel more rested? Answer: "I suppose we don't really get more sleep, in hours. Rather better quality sleep, less stress, and our work is therefore more enjoyable. Having dinner earlier also helps. We used to get stressed when the family was unhappy. Now, there is much less stress. There is less work, we are less rushed. We talk things out, then deal with it".

On marriage and family life: "We have more quality time together. That's huge".

Regarding the children: "On TAD, it was more difficult to be available for sports events and so on. We always went but it was always a rush to get there and get back. On OAD, there was time for an ice-cream on the way home".

On their ageing parents: "Time is the big issue. There is more time to be with them. They see us more. At first, Dad didn't like OAD but now our parents are quite proud of what we've done".

On retirement: "We can carry on milking for longer. If we hadn't gone to OAD I would have had to employ staff and worked off the farm to be able to pay them".

Production

Income went down the first year on OAD, then back to normal, then up above normal. Empty rates are down from 13% to 2%. "More calves, more income". There have been big savings on animal health. Production followed the income curve except that now production has stabilized, income is still going up "as savings kick in". However, for both of them the well-being of the cows is paramount- having "good, healthy stock. Cows are healthier, less stress on them, therefore less on us."

"Relief staff are far happier to help out with OAD". Also "we have more options such as using retired farmers". However "the issue of somatic cells is important- staff need to have the knowledge to detect it fast".

Would you recommend other farmers consider OAD?

"Yes, but know that every situation is different. Production will drop but it will pick up again."

Case study: 5

This beautiful Northland farm lies on the bank of a large river. There are 400 Jersey cows on 92 hectares.

The farm is owned by the widow of a dairy farmer, and managed by a lower-order sharemilker and one other full-time staff member and three casual workers. The owner and her husband came here in 1965 as 50% sharemilkers. Later they bought the farm. The farm was run down: 135 acres, 80 cows. They supplied only cream, the pigs got the milk. Later they sold whole milk. He improved the pasture, put in laser drains, progressed from 80 to 120 cows. Her particular contribution was in breeding good animals. He died in 1983, and she kept the farm going and brought it to the present level.

Now the children are independent, and the owner lives alone. She advises the farm manager and they discuss issues, but she is no longer involved in the day-to-day running of the farm. However, this is home and she is justifiably proud of what she and her late husband achieved.

The owner and the manager decided to move to OAD 4 years ago because they felt that staff would benefit from more relaxed working hours, some free time and an opportunity to develop other interests and talents. The staff tallies up to 2.5 full-time staff spread over 5 people. She says: "The welfare of the people must be respected." He agrees: "We try to keep it simple – for the sake of the people". Her strategy was to acquire staff that she liked and respected, and then to tailor the farm system to their needs and personalities.

The risk inherent in changing the farming system to OAD was not perceived to be great. "Lots of others were doing it. We went to Dexcel discussion groups, read what was available, and I knew that our (Jersey) cows could handle it".

Although the farm is relatively generously staffed, production and income have been maintained since moving to OAD.

What was the effect of the switch?

The main effect of the move to OAD has been less stress on the people and better quality farming. For the people, the initial response was quite startling. The manager states: "It was such an incredibly strange feeling…I felt guilty…I get up at 6.20 instead of 5.20. On TAD I got little quality sleep. Now I can stay up later, sleep better" and "we get in for breakfast. We have more regular meals".

Stress levels are much lower. Stress is created "when it is really wet- cows on wet paddocks. Also being over-busy, not enough help, too much to do". Previously the response was to work harder, and try to catch up and deal with problems. Now, there is time to prevent many problems from occurring, and when things happen, to deal with it properly. "TAD was leading to burnout and my leaving the farm" (manager).

From a work-life point of view, "things are much better now". She says "there should be a continuation of work and enjoyment". He agrees: "I work to live, not the other way round. I like to do a variety of things. This means employing enough labour to enjoy life"

The staff "are appreciative". It is difficult to track the effect of changing from TAD to OAD on staff because when they switched the whole staff structure changed. "I employ a different level of staff. They get a monthly salary".

Safety

The farm is safer. "No one is running around, they are wide awake". There is better quality thinking and decision-making because of more and better sleep, less pressure, and a more fulfilling life. There is less conflict because everybody is more relaxed. The staff benefit from fewer hours worked, they have a life, choices, and we have better workers".

The future

This team is planning to "carry on as now for the next 10 years". They would recommend OAD to other farmers, but "it is easier for Jersey farmers than for Friesians".

Case study : 6

This Northland farm of 88h carries 180 Friesian/Jersey cows. The owners, a middle-aged couple whose children are independent, have no staff except 2 part-time workers 4-5 weeks per year. The cows are all black- they like black cows!

The owners switched to OAD 3 years ago. "These are our twilight years as farmers. We were getting tired, and there were things we wanted to do, and we thought ' there must be a better way'. OAD has extended our life as farmers".

What keeps them on the land?

She: "I love the animals and being outside. Farming is a challenge". He says: "I like being my own boss".

What values support their farming decisions? He says: "**Fairness** to everything- animals, us, money, the environment, people". She agrees, but emphasises animal welfare: "The animals are very important to me".

They took the decision to move from TAD to OAD partly because of discomfort with animal health, and partly to achieve more comfortable working hours in an effort to achieve a better over-all system: "Yes, initially we were nervous. We read the research by Dexcel. But, the animals were not well, something had to change. Our fertility rates were not good. Therefore, we decided not to increase the stocking rate. It had to work without the increase".

"Our income has gone up about 25%. There have been significant savings on animal health and fertilizer (nitrogen 85% less). Empty rates average, on OAD, is about 5.5%. Farm production is up. The animals look much better".

The effect of OAD on the people

"Before, we were very sleep-deprived. I sleep better now- I am more relaxed, feel better. I have much more energy". Also "Now, eating is not just refuelling, it has become a social moment. We are more relaxed, we enjoy a hot drink now and then".

For them both, the main stressor on the farm was time: (He): "Time. Not having enough time to do things properly."

Now, the stress is much less. He says "I am working to live." She says "It should be a balance between working and enjoying life. We have achieved it on OAD. We could farm for years to come now".

The couple agree that their relationship has benefited. "We are both less tired. We have time to be together. There is money available. We go ballroom dancing now, and tramping. We have time for hobbies and to do things in the community".

Regarding the family, he says "I get **annoyed** because I didn't do it while we had young kids. The kids have always stayed in touch, but now we get a chance to see them".

As far as farm safety is concerned, they agree that under OAD there have been changes. He says: "I bike slower, under 50km/hr. The farm is safer because there is less rushing. I broke my leg before- it is less likely now". She says: " I walk more instead of driving".

Overall: There is much better decision-making, we communicate more and better about issues around the farm".

Would you recommend OAD to other farmers?

She: "Yes."

He: "Yes. But: there is always the glass ceiling of tradition. I have stopped converting people. However: do it! Have confidence in the system, and ask for help when you need it"

Case study : 7

This rather remote Northland farm is run as a family business. Dad (nearing retirement age) does the books, solves problems, and acts as "Jack of all trades". Mum takes care of the household and helps out where necessary. The eldest son milks and handles the animals and breeding aspects, and the youngest daughter milks and helps with the stock and rears calves. The other children live elsewhere, but visit and help out occasionally. They are a robust lot generating a great deal of energy and lots of opinions. Everybody talks at once.

The whole family were born to farming. It is a way of life. This is a pretty rugged farm and the family have a pretty rugged lifestyle, but they are very independent and self-reliant.

The family moved here 5 years ago. After being sharemilkers for many years, and running some large farms, they were very aware that "staff worked too hard, and left too soon". So, they bought this farm and are still in the process of developing the previously rather neglected farm. The farm, 146 hectares of steep hills, carries 120 mixed-breed cows. Cows have a maximum walking distance of 4.2 km to be milked.

Because animals generate the income, issues of animal health and well-being dominate their conversations.

Before owning their own farm, as sharemilkers, they used OAD as a temporary strategy. They adopted OAD as a permanent management strategy 4 years ago because "the heifers' condition was bad, so we put the heifers on OAD and gave them extra feed. Their condition picked up, they were easier to handle. Actually, we had no choice. Either we had to take on staff which was difficult because the farm was run down, there were long distances to walk, and the races were deteriorating, or we could go to OAD". Going to OAD was "no risk. It was a decision based on experience". On TAD a working day was 12-14 hours, on OAD 10 hours. They get up at 8 am, start working at 9 am, go to bed at 10.30 pm. OAD enables the family to cope without employing staff.

On TAD everyone needed more coffee to keep going. When things broke down they tended to get violent and grumpy, and yell a lot. Now there is much less stress and "much less noise" (according to Mum).

The family consensus: "We need work and play. More music, all needs better met, time to socialise. More time to play, go fishing and hunting".

The future

There are no plans for retirement yet. Dad will "work till I die" and although Mom would like to retire to town and have a bit more company, she is aware that having the family work together is a privilege which she would not easily give up. Besides, they would be lost without her.

Are you planning to continue on OAD?

Yes, they are planning to continue on OAD. "OAD should be part of every farmer's thinking. OAD gives a bit more variation, time off, flexibility leads to better lifestyle, more options for production. Blocks of time available are bigger. Low empty rates. It should be at least part of farming strategy for young families".

Case study : 8

The couple owning this Northland farm are moving towards middle age. Their three adult children are independent and not interested in farming. There are no staff.

The 80% clay farm is 93 hectares, carrying 190 Jersey cross cows. They converted to OAD milking in 2005, mainly because they were distressed at the wastage of young stock not getting in calf. On OAD, the empty rate has dropped from 18% to 2-3%. They report that the animals are less stressed, in better condition, and calving is tighter- about 8 days.

Because animal health was the prime consideration in moving to OAD, they did not increase cow numbers. In their first season on OAD income dropped by 15%. In the second season it dropped by 10% compared to pre-OAD levels. By the third season income was back to normal, and since then it has gone up.

"Yes, it was a financial risk, but we could wear it. We talked to other farmers, read reports, and got information from LIC".

With milking once a day life did not change very dramatically. They still milk early, and animal numbers have remained steady. Income and production have been maintained. The big difference is in the way time is used.

Time, work and stress

Before, "there was too much to do, and when things go wrong, I used to rant and rave. Now, there is more time to fix problems properly. There should be time for work and play- 2/3 work, 1/3 play would be about right. One should not be tired all the time".

On OAD, they have regained their lives. “We would have stopped farming by now without it. We have more quality time together. (He) has more time for the children. They have conversations, he answers questions, and we are both less crabby.”

She says: “I can spend more time with my Mum”

Safety issues

The farm is safer. “There is better, faster maintenance, less stress leads to better concentration.” They agree they have a greater vision, time to think, take better decisions. “You can see more, vision is less one-dimensional, be more creative”.

The future

This couple are planning to continue on OAD and would encourage other farmers to consider it “ if they want to prolong their life in the industry”.

Case study : 9

This second-generation farm is run organically. The farm is 62 hectares, plus 47 hectares run-off. The farm is flat, with a central race. The 120 cows plus 30 replacements are Shorthorn crosses, some Jerseys and Friesians. The focus is on maintaining soil quality and keeping the animals healthy- making sure the farm is sustainable through using organic methods.

The couple have 3 adult independent children and one teenage son living at home. They have no staff. It is a partnership: she does the accounts and the calves, he does the milking and farm work.

They converted to OAD 3 years ago. “We wanted to slow down, but did not want to take on staff”. So, they milk the main herd in the morning, and the rest in the afternoon. “Yes, it was a risk, but it led to a better lifestyle and extended our lives as farmers”.

Production has gone down by about 50%, but income has dropped by much less than 50%. However, they stress that OAD has extended their lives as farmers- the drop in production and income is acceptable because they are semi-retired. Without OAD, they would not be dairy farming at all.

Staffing issues

Staff issues were the main trigger for this couple going to OAD, including the difficulty of finding staff who share the organic value system. “We tried to use staff, but it was too much of a hassle. Now we can do it all ourselves. Being the boss meant finding things for them to do and then having to fix it myself again. They don’t work properly. Also, employees have more rights than employers”. Going to OAD was a way of sidestepping staff issues but accepting the reality of getting older.

Work-life balance

Like many farmers, he likes being outside and being his own boss. She acknowledges that she is on the farm primarily because she married a farmer, but she likes the lifestyle and looking after the calves. On OAD they get up at the same time as before (milking at 6 am) but bigger blocks of time available means they are less stressed by getting behind in

their work, and better able to cope when things don't go right. He says: "One should enjoy your work and do it as best you can." She says: "I need work to achieve but I also need time out". OAD makes it possible.

Their recommendation?

They would recommend that other farmers think about going to OAD: "Yes, definitely. For the family and to keep farmers in farming".

Case study : 10

This Northland farmhouse must have one of the most beautiful views in the country- 162 hectares of steep hillsides, some of it under native bush, that carry 200 Jersey cross cows, and produce some beef. The cows have to cross a road to be milked, which requires two people on the job. The middle-aged owners, who have health issues, each work about 25 hours per week. He takes care of the grazing, she is very involved and interested in animal health and breeding. Their married daughter, who lives on the farm with her family, acts as full-time farm manager and sharemilker.

The farm was handed down to him from his father. Despite the steep slopes he enjoys tractor work. She loves "the family all working together, like a small business but without the hassle of dealing with the public. I like dealing with something alive and interesting. I like being my own boss". Basic to their decision-making is "the welfare of the farm. Concerning money, we try to think strategically".

The burning platform

The couple switched to OAD 2 ½ years ago. "We had staff problems, then animals got sick and we wanted to go overseas". It was easiest to go to OAD, and they never switched back.

The result of OAD

Production on OAD has remained about the same as on TAD, but income is up because of savings. Their recommendation: "We wouldn't be milking without OAD". They did not feel they were taking a risk, because they had used OAD before, but "we should have done it 30 years ago" OAD has given them some useful advantages. "We get up in morning light, get cows in before dark." This is important on a farm with very steep contours. Also, they find it a huge relief to be independent of outside staff. They enjoy greater privacy and better quality time together.

Empty rates are about 7%. However, income is up because of significant savings on OAD, including savings on staff. They do use relief staff –"much easier to get because of the short, flexible day" – that are paid by the hour. "The main thing you want is enthusiasm, punctuality and respect for animals".

Case study : 11

The 75 hectare Waikato farm has stands of native trees, and carries 240 Jersey/Friesian cows.

A family-centred life

The owners, a couple with 3 young children, came here as sharemilkers and later bought the farm. They do not employ staff but her Dad helps with the milking, so they milk at a time that suits him. This family loves the lifestyle "..and it's good for the kids. We are country people." They take decisions based on "an inner belief that this benefits us as a family".

They switched to OAD 3 years ago, in 2004. "We had been milking TAD for 15 years. Never had real summer holidays. We got to the point where (husband) considered changing careers. Going OAD was a compromise- we're not big enough to employ full-time labour, and anyway staff are a big problem anywhere".

Stress

Stress is created when there is "work pressure - too much to do. I get grumpy. I talk to my husband, that always helps. It is important to keep that balance. I enjoy working, but life shouldn't be all work". OAD has made a huge difference- being able to have outside interests. We are doing interesting things besides milking cows".

Impact on the family

OAD has had a "huge impact on our family life. We are now able to be there for the children in the afternoons, and not to offload our pressures on them. Before, I'd fit them in around jobs. Now it is such a relief- a real weight off my shoulders. We have more freedom. It always used to be a mad rush. The kids responded accordingly. Now we have afternoon tea together, talk about their day, get homework started. Specially during calving- calving is now bearable. We just find we can do things properly and finish them."

OAD has also impacted on the two sets of grandparents. "Both sets of parents are ill- we have time to care for them. Dad is our only staff member. It has been good. He feels more valued. He sees the children before school".

Safety

Farm safety is better because there is more time to do things properly. We keep better records, have a better quality farm overall".

Recommendation

"Oh, yes. OAD definitely has had huge advantages for us".

Case study : 12

This remote farm up the Waikato river has been a family farm since 1952, and was converted to a dairy farm 15 years ago. The 136 hectares (90 hectares effective) carry 240 Jersey/Friesian cows. There is lots of contour; the cows have a maximum walking distance of 2.4 km. "It is a young man's farm".

On a personal level, they are farmers because he "was born to it- I have a sense of satisfaction" and she "married a farmer". She values "contributing financially *and* having

time for other interests and family." For him, working is "about survival. To be financially secure and healthy, and not work yourself to death".

For them, animal welfare is paramount.

"We wanted: -Cows well fed,

- a reasonable standard of living

- quality of life."

On OAD, they got it. They switched to OAD 3 years ago after a spell of very bad weather. This "took the physical and mental pressure off" so they stayed with it, particularly since they could then avoid employing labour, something that had always been a problem.

Production and income

On OAD, income has increased by 10%. Current empty rate is 5%. Production went down the first year of OAD, then, the next year, regained the TAD level, and since then has increased every year.

Was this a risk?

"No, we didn't see it as a risk. LIC put a positive spin on it; we did not have debt, so we didn't increase cow numbers".

OAD has not really changed the daily routine of their lives. The big change has been in their perception of how and why they farm. They expect a lot from themselves and, previously, from their staff. Incompetence was a major stressor. Now, "we think it through, then do what is necessary." And "taking on staff is not an option with regard to employment laws".

Stress is lower. "There is time to get things under control. Also, it feels good to see fat, contented cows".

For their children, OAD has meant they see more of their parents. "We always made time for them, at whatever cost, but we now see more of them". Also "OAD probably extended our milking life and saved the farm for our son".

Would they recommend OAD to other farmers?

"It is good for mature people (like us) but for young people?? For us, we are better farmers, we have flexibility, bigger blocks of time available, time to do fun things together. Therefore: look at what you are trying to achieve. When the payout is down reducing costs is the best way to influence the bottom line".

Case study: 13

This Waikato farm of 114 hectares runs 308 cross Friesian/Jersey cows, using Kiwicross bulls. It is hill country, very up and down with lots of little gullies. The cows have to walk a maximum of 3.5 km uphill.

The owner has another farm with a different management system, but on this farm he works alone: “I can do what I want”. His wife works off-farm, and their children are independent.

Managing the switch to OAD

He switched to OAD 7 years ago: “OAD made sense on this farm. I can now start a job and complete it. Farming is about profit with the least amount of stress. The system needs to be sustainable. Staff are usually the first element to give”. OAD enables him to combine a high standard of animal health with a working day of a maximum of 8 hours. “I get up at 6.30, work till about 4.00, with a break in between.” This gives him time for sport and social activities.

The switch to OAD was the result of some incisive lateral thinking: “I studied it for 4 years. Got information from the Internet, Dexcel scientists, field days. Hendricks provided important information. Then I added a lease block to the farm and the economics fell into place. I could feed cows better, run calves, become self-sufficient”. Production initially went down by about 12%, then gradually up again to 12% above the previous highest level. Empty rate was 15% on TAD, now on OAD it is about 5%. Profitability is up, as are savings: “Everything costs 20% less”.

Stress

Stress is created “when the family is unhappy or the cows are hungry. Muddy paddocks.” When this happens “I try to use experience, be pro-active, regain control”. With OAD there is much less stress: “Much better. System works well, no hungry cows.”.

Work-life balance is of “huge importance. Work is only what you do to get a good life. I’ve got a great job”. He sets himself goals and enjoys the challenge of getting there. This farmer plans to keep going. “I do not plan to retire or to sell the farm. OAD opens up a whole lot of options, such as to appoint staff to do the work”.

Would he recommend other farmers consider OAD? “Well, milking is no different in itself, but the longer milking could be a possible negative because one’s attention span is worse. We milk longer, the mind wanders. After all, 2.5 hours is a long time to concentrate. It can become boring. Look at your herd: why do you want to do it?”

Case study: 14

Not a clear-cut issue

On this Waikato farm of 180 hectares near Rotorua they run 600 Jersey/Friesian cows. The farm is steep, and the cows have a maximum 2.5 km walk to be milked. The owner employs a lower-order sharemilker and one more full-time staff member.

The owner switched to OAD 3 years ago to enhance staff contentment. During the week they all work long hours to complete farm jobs; during weekends they do the minimum to give staff time for recreation and private pursuits.

Staff morale is high. However, it is not clear exactly what the effect of the switch from TAD to OAD has been on production and income. This is because the farm was first expanded, then a bit was sold off; and there have been other changes. Total production

has gone down, but large savings (e.g. 30% off winter feeding costs) and a 50% lower empty rate will probably add up to an overall increase in income.

The future

At this time, it is not clear yet what the future management system will be.

Case study : 15

This remote farm on the West coast consists of a western area of 174 hectares that is managed by the owning couple's daughter and son- in-law, and is milked TAD (their preference). The eastern part of the farm, 107 hectares, is managed by the son, who prefers to milk OAD. The two blocks are almost separate, and the milking shed is centrally between the two blocks. The cows have to be brought across a road for milking.

In total, there are 480 Friesian/Jersey cross cows, of which 130 are milked OAD. "We are breeding our cows to Jerseys with an eye to OAD."

Independence

This is a pure family farm, with no additional staff. Mum takes care of the household, Dad does the tractor work and helps out where necessary. For this family, farming in this remote area is very much a lifestyle choice: "I just love it. I never get stressed". For him, it is about love of nature, love of animals, and the lifestyle. For her, it is really about the animals and the science of farming. However, decisions are taken on business grounds because the farm has to generate income for the owners' retirement and to secure a future for their children.

They switched to OAD on half the farm 3 years ago because the farm shape fitted splitting into two herds after getting information and support from Dexcel and LIC. Milking one herd once and one herd twice accorded with the wishes of the "staff" who like the split and the way they work. Because of the split system they each have their own area of responsibility, and quite a bit of autonomy. They value their freedom of movement and decision-making.

Safety

The farm is a safer place because the people are unstressed, therefore animals also. "When people are not frustrated they make fewer mistakes and don't hurt themselves so easily".

Income and production have been maintained at a satisfactory level. Unfortunately, the milking records and bookkeeping are integrated for the two sections, so a differential analysis for OAD and TAD is not available. The current system suits the family and they plan to maintain it.

The future

The family are planning to maintain the double system because it suits the people involved.

Case study : 16

This South Canterbury farm (164 hectares effective) carries 600 Jersey cows. It is run by the owners, who have two young children, and two full-time staff. The farm is dry, stony, difficult to irrigate.

A family with young children

For this family, farming is about the challenge to achieve their personal and business goals, a rich environment for their growing children, and a base from which to do interesting, life-enhancing activities.

A controlled switch

They switched to OAD 5 years ago. Initially, as a controlled experiment, they split the herd, milking half TAD and half OAD. On finding that production on OAD was the same as on TAD, and the empty rate as much as 50% lower, they went to full OAD. This also avoided costly capital expenditure. Also, on TAD they would have needed 3 full-time staff plus 2 casuals instead of the current 2 full-time plus 1 casual staff member. This represents a significant saving in money but also makes for a more informal, self-driven working environment.

Production has been maintained, but income has gone up more than they expected because of savings on staff, animal health and production costs.

Stress

Stress levels are low because they enjoy what they do, they have a balanced lifestyle, and there is harmony among the people on the farm. They have time, enough money, energy, a good family life. They are happy and they know it.

Recommendation

This couple have been active in promoting OAD as a management tool because they have experienced significant benefits from it. They are emphatic that it should be considered seriously although clearly OAD is not suitable for every farm.

Case study : 17

This second-generation Westland farm is run by the owner in partnership with his wife (who has a part-time job in town). They switched to OAD 3 ½ years ago. Initially they only milked OAD after Christmas. It worked well, so now they milk 210 Jerseys OAD all year round. This farmer reported that "the risk is in the young cows. We don't feed concentrates- only grass- and the heifers just can't carry enough milk to compensate for age. We lose production there. However, switching to OAD was no risk: "I knew my animals; knew what they could tolerate".

The challenge

There is no staff; the farmer's wife adds about ½ a labour unit. For the rest he works alone except for a relief milker in spring. For him it is about the challenge of "breeding the ultimate Jersey cow- one producing most milk, most protein".

A main road runs through the farm. They built an underpass 5 years ago, which led to them dropping 1 full-time worker and going for a 24 hour grazing cycle. The cows' longest walk is 1 km.

For the past season the inputs were the same as the one before, but income has gone up (this was before Fonterra announced the extra pay-out), and cost savings were up. Last year, their income was the highest it had been for 14 years, and the farm is in the top 4% of production locally. The had their lowest empty rate ever.

Family benefits

The couple have two young sons. Before switching to OAD they "got sick of overwork, having no time for the family". Now it is better, more relaxed. He is less stressed because of good results, meeting the challenges. "I do well under a bit of pressure because I compete against myself". There was "far more stress under TAD. I was annoyed to spend a beautiful afternoon milking." He deals with stress "by realising that you don't have to let things get on top of you. Things just aren't that important". Being able to keep things in perspective and find time for the family adds up to a good life.

She loves OAD – it gives her the freedom to pursue own career, do a part-time job. She also helps with milking. "I can contribute a bit more. For me OAD has not meant a profound change, but it means we have more choice about when and what to do".

There is more time to support the children at school activities; as parents they are generally more relaxed and available.

His widowed Mom lives near. She is "confused by OAD – it is a new concept that she does not fully understand- but "my Dad would have found this a delightful challenge".

Case study : 18

This is the third season on OAD for this mid-Canterbury farmer. He runs 750 cows on 230 hectares, The farm is reasonably flat but the cows have up to a 2 km walk to the milking shed. It is a dry-land farm with no irrigation.

Although most of the family live on the farm, the farmer is basically helped by his son, one more full-time worker and 3 to 4 part-time workers.

Time pressure

The switch to OAD was made for the benefit of the people on the farm. "I was sleep-deprived and I could see it in the staff. We went to OAD because of the welfare of the people, for the simplicity, because it is easy to do".

Things are much better now. There is less need for day-time sleeping. There is more time available".

"Time, I don't do enough for myself- all the years of TAD I forgot how to do things for myself. Now it is better. We have leisure to do things together, no pressure to go milk! This was unthinkable before. Also on Christmas day- we had a leisurely dinner together – unthinkable before".

The switch to OAD "suited the farm". They have a smallish 30-a-side herringbone milking shed, so TAD milking took a long time. Then, when they leased an additional block of land and bought more cows, they did not want to spend capital on extending the milking facilities. Initially he milked OAD on the lease block and TAD on the "old" farm but there "was no benefit, so we changed to OAD for the whole farm".

On OAD, production is down but income has increased because of savings. "We are tweaking the cow numbers up each year, breeding in more Jersey, but income is better basically because of savings".

Would he recommend other farmers consider OAD?

"Yes. It is not for everyone. It has to suit the farm but people should definitely consider it."

Case study : 19

This family farm in Central Canterbury of 260 hectares carries 450 fully Friesian cows.

Three generations live here together: grandparents, parents, a married son and his wife, and an unmarried daughter. The employ no staff, although the older generation has limited input into farming activities.

Staff hassles forced a change

They converted to OAD 3 seasons ago, mainly because of staffing problems. They took a strategic decision to absorb a possible drop in income in order to be independent of staff, relying only on family labour, and therefore be less vulnerable.

He is quite frank about himself: "I have become aware of my limitations: I cannot deal with staff. We want to create a future and security for the family, specially the children. I want to keep it simple- no high input- not keen on big changes e.g. rearranging the irrigation system. I am not a trader, buying and selling- I don't enjoy that. I am stressed by that- now I want time for ourselves, social things we haven't had in the past. I would very much like to work with my children. But they have to want to work with you too!"

This farmer was badly hurt and disillusioned by being left in the lurch by staff at various difficult and vulnerable times. Therefore, "I decided I want to be independent of staff- so that I can deal with the farm alone if necessary". They considered downsizing the herd, but that would have been too great a loss, so "we went to OAD- I increased herd by just under 10%, did 85% of production in first year". The decision came out of frustration and exasperation. "As I offered staff more and better I also became more vulnerable. We are a difficult size- too big to do it all alone, too small for permanent staff. We are far away from town, isolated. Then someone suggested we go OAD. I dismissed it because OAD was associated with lack of feed. Little was known about risks. In hindsight I should have taken it more seriously. Then saw Country Calender and I thought to myself 'that 's got to have some possibilities'. I talked to my son, then we took the plunge".

The results

The production and income patterns are not clear yet, although "a satisfactory level has been maintained". Maintaining income is important because 3 generations of people living on farm have to be supported. However, "I feel and sleep a lot better now. This is confirmed by the remark of neighbours 'You look one hell of a lot better than I've ever seen you before'".

Conclusion

However, he states "I have not found OAD to be useful in dealing with staff. It has been good for us but staff do not seem to appreciate the benefits. We have tried all sorts of staff structures but it was on the level of relationships and expectations that things went wrong". The family comes to the rescue every time – they are the only people I can rely on".

Case study : 20

This spread-out Westland farm of 100 hectares carries 160 cows and produces some store beef. The husband-and-wife owners have been dairy farmers for 23 years, 18 years on this farm. They employ no staff.

Burnout

The farm has 2 road boundaries and the cows have a maximum of 3 km to walk to be milked. Last season, the owners realized that they were sick of milking. Their options were:

- Produce something else
- Sell the farm
- Go to OAD milking.

They chose the latter option. They dealt with the change by reading as much about the subject as possible, increased cow numbers by 21%, and introduced Jersey into the herd.

Results

The results of the change are not yet fully clear. Production and income have dropped, but by less than they thought it would. "We are getting there" and "it seems to be working for us". Previously, stress was created by lame cows. "I used to lie awake worrying". Now, there is less stress because the cows are healthier.

On a personal level, life is also better. They have a better social life, some opportunity for travel, and they are involved in community activities.

Would they recommend OAD to other farmers?

"Yes. "It seems to be working for us".

CHAPTER 5.
Conclusions

5.1 Introduction

This chapter contains a summary of information from the case studies to identify commonalities and patterns that might paint an overall picture of OAD at present. We also link these results back to the more theoretical content of chapter 2 so as to answer the research questions.

5.2 Details about the farms visited

5.2.1 Size of farm and number of cows

As it turned out, the farms studied tended to be small to average size. Sizes, in hectares, ranged from 62 hectares to 363 hectares, with an average of 175 hectares. In the OAD group we studied, cow numbers ranged from 120 cows to 750 cows, with an average of 336 cows per farm. Only one farmer had a fully Friesian herd; 3 had Jerseys only, and the rest a varying mixture of Friesian, Jersey and, in one case, Shorthorn cows. One farmer used Kiwicross bulls over Jersey/Friesian cows.

Peter Gatley found that OAD farms had between 40 and 1650 cows, with a median of 190 cows and a mean of 239 cows (Gatley, 2007) which means that our group nicely represented OAD farmers overall.

5.2.2 Operating structure

All the farmers we talked to were owner-operators, although some were formally a partnership, company or family trust. This is because the lists of OAD milkers only contained information on owner-operators.

5.2.3 Topography and history

Topography of the farms differed markedly. In some cases topography played no role in the decision to milk OAD, but in some a long walk for the cows to be milked (up to 4.2 km), the need to cross a main road, dry, stony roads, the shape of the farm (e.g very long and narrow with the milking shed in the middle), steep hills and contours or prevalent wet conditions and mud caused so much stress in people and animals that they contributed significantly to the decision to switch to OAD.

As could be expected, the histories of the family on the farm differ widely in time and content. In time, they range from an old family farm (settled in 1919) to a farm that was bought just 3 years ago. Not one farm was selected, designed or modified specifically for the purpose of OAD milking, although in some cases such modifications are being planned.

5.2.4 When did you switch from TAD to OAD?

The earliest change was 7 years ago. This was at a time when OAD was still very experimental and often equated with “lazy” farming and bad pasture management- a

brave thing to do! Of the rest, 1 switched 6 years ago, 2 switched 5 years ago, 4 respondents switched 4 years ago, but the bulk of the respondents (9 farmers) switched 3 years ago. The most recent switch was 2 years ago (2 farmers). Most farmers had used OAD as a temporary strategy before. In 2 cases they milked TAD until Christmas, and on Christmas day went to OAD and simply stayed there.

5.3 Reasons for switching from TAD to OAD

5.3.1 Values

The reasons for switching from TAD to OAD cannot be considered in isolation from a farmer's value system, because values tend to dictate the focus and content of decisions.

We found that 3 sets of values tended to dominate: animal health, welfare of the people, and sustainability (often expressed as "balance", or "fairness"). Profit was always part of the mix, but not one respondent took decisions with financial gain exclusively in mind. This means that the welfare of the animals, the people on the farm, and the sustainability of the entire system would normally inform the priorities for change and the expected benefits of change.

These values are impressive because they negate the exploitative association sometimes attributed to farmers. During interviews it became clear that the farmers involved were, in fact, very thoughtful and had a huge emotional and practical investment into farming practices that were fair and sustainable.

5.3.2 Change management

In Chapter 2 we showed that change usually takes place for one or both of two reasons: a change of thinking, or a "burning platform". In the case of our respondents, both dynamics could clearly be seen.

In most cases, a change of thinking could be summarised as "there's got to be a better way". Discomfort with animal health, high empty rates, staffing frustrations, and a farming system that was just not running optimally forced a re-think of the entire operation. Dairy farmers are well aware that a dairy farm represents a complex system of interlocking factors and that adjusting one element of this system is likely to have an effect on every other factor supporting the system. Likewise, a small change can sometimes have significant or even unforeseen impacts. Therefore, they did their homework by reading what was available on the subject (mainly material put out by Dexcel). Farm consultants played a major role in providing information, guiding the change, and supporting the farmers. Local discussion groups provided a forum for talking through issues and providing peer support. However, comprehensive information and guidelines are not yet available- much research remains to be done.

On the other hand, milking OAD has been part of a farmer's "tool box" for generations. Several experienced farmers made it quite clear that they knew their animals well enough to know what the impact on the animals would be.

The "burning platform" was mainly represented by threatening burnout. Dairy farmers are used to working very hard. During the season, every day is harvest day and the routine can be unrelenting. When a farmer reaches a point of burnout, meaning that

normal, legitimate human needs are neglected to the point of emotional starvation, something has to give. Switching to OAD proved to be a sometimes desperate but ultimately very constructive way of regaining some balance and quality of life.

5.3.3 Work-life balance

Every respondent in this study energetically agreed that a balance between work and play, between work and family life, and between work and meeting personal needs were extremely important. The majority confirmed that OAD had done much to import or restore this balance in their lives.

Most respondents related this improvement to time. Over and again, it was mentioned that "we now have *time* for…" and that this *time* represented an opportunity to add value to their lives. More time meant:

- more sleep, feeling more rested and able to work;
- less rush, less stress;
- more flexibility when and how to do things equals more logical organisation and method;
- bigger blocks of time available, therefore jobs get completed. This adds up to more job satisfaction, better quality farming, a safer farm environment;
- better quality family life, better relationships,
- opportunity for sport, hobbies, community involvement.

But is more time really the whole story?

Probes revealed that most respondents still stuck to much the same routine as before switching to OAD: they still got up early, milked early, and worked hard all day. In some cases the working day was shorter, in some cases not. However, on talking it through, it became clear that there were, in fact, *two* dynamics involved: *time* and *choice.*

OAD does, overall, create some hours of discretionary time each day. However, the jobs on a farm are endless, and most farmers fill these hours with quality-enhancing work: better maintenance of grazing and equipment, better weed-control, better records, or whatever. They do have time available for family interests when they need it, but they still work very hard indeed.

The big difference seems to be in attitude because OAD gives them choice. Instead of an endless stream of jobs that demand completion, they can now milk once, then decide what else needs doing. They can decide when to get up and go. Choice means the difference between labour and drudgery; being able to choose one's program puts back a measure of control, spontaneity, and executive thinking into the day. And this, in the words of one respondent, is huge.

5.4 Needs analysis

First level
On the first level of Maslow's needs hierarchy (see par.2.4), meeting basic needs, the only major factor of difference was in sleep. Some respondents reported no change at all in sleeping patterns, but most reported some or considerable improvement in length and quality of sleep. It seems that the need for an afternoon nap was smaller and stress-induced insomnia reduced. Energy levels were generally higher and respondents felt more rested. However, on a physiological level, limited impact was reported by the switch to OAD.

Second level
The second level of the needs hierarchy concerns safety. Respondents were asked whether the farm was a safer place after switching to OAD. Most respondents initially denied this, saying that their farm was safe, in any case, and that they do not actually have a high enough accident rate to be able to compare. This is fair comment, but further discussion brought out that, because they are well rested, their ability to think and concentrate is improved. This leads to better decisions and better planning. Also, because they are able to react fast, accidents are more easily avoided. Fatigue does lead to lapses in concentration. One farmer made the point that, because most of the work is done in daytime, accidents caused by poor visibility in the dark are avoided. Somebody else reported that before OAD he invariably drove his quad bike too fast. Now he slows down, and has not been thrown off his bike once since switching to OAD.

Third level

The third layer of needs are love/belonging/social needs. A farm can be a lonely place. Although every farming family learns to be independent and to deal with lack of companionship, if this becomes social deprivation it can hamper quality of life. On OAD farmers reported improvement not only in quantity of time for socialising, but also in the quality because they can relax, take their time, and not be overly aware of , for instance, the pressure of afternoon milking.

The same is true for families: one respondent eloquently described how, before OAD, there was always a rush to get home after sports; now, the family can have an ice cream on the way home and talk about their day.

Fourth level
The fourth layer of basic needs concerns esteem. This includes both self-esteem and esteem for others. Although nobody explicitly addressed this, remarks such as " I am proud of what we are doing" or "my Dad would have loved this challenge" indicate that their sense of self-value is engaged. The fact that OAD milking has been derided as a "lazy" way of farming has largely been offset by the growing numbers of farmers milking OAD, thereby creating a functional community with its own network of support, jokes, stories and knowledge.

Fifth level
Growth needs, or self-actualisers, are the next big layer of needs. They are different from basic needs because when basic needs are met, the person stops being aware of them. It is only when basic needs are not met, that they create discomfort and the urge to satisfy

them. Growth needs are different: when they are met the person becomes aware of change and enhancement in him/herself. New knowledge, mastering a new skill, meeting a challenge stimulate growth with corresponding increases in autonomy and function.

OAD has probably not been around for long enough to gauge the impact on this level of needs, and this research project was not really geared to evaluating this level of functioning in respondents. However, dealing with risk, and achieving extra-ordinary results, do add to personal self-esteem. Also, having executive power (being ruled from within) is strongly self-actualising.

5.5 Stress and distress

Time constraints are one of the major stress generators in the working lives of farmers. Learning to relax is a survival skill for a farmer, and, as with time and choice, attitude is what makes the difference. When stress is interpreted as challenge and there is a reasonable chance of meeting the challenge, working hard and working smart becomes a pleasurable adult game with high potential rewards. However, when work turns into drudgery and stress into distress emotional and physical fatigue take over and because the rewards just don't measure up to what is demanded. Every respondent in this study confirmed that stress levels went down when they switched to OAD. The results were evident in better family relationships, better parenting, and stronger community involvement.

5.6 Impact on the family

Just about every type of family system (except single-parent families) were present in the group of respondents. This includes the whole range from single person or widow / widower (2 persons), husband and wife only, or a couple with adult independent children: (9 couples), husband and wife with young, dependent children on farm: (5 families), family groups or adult extended family working together (5 families, including two cases of three generations of one family were working together).

5.6.1 The adult partnership

It is common to find couples jointly owning and managing dairy farms in New Zealand. This has advantages and disadvantages. Among the respondents in this study, only 3 spouses worked off-farm and were not involved in the dairy farm operation.

Of the others, every couple reported, with varying degrees of intensity, that their relationship had improved after converting to OAD. Most attributed this simply to more time available to spend quality time together, and to have some fun. Mention was made of better quality sleep, more relaxed meal times, better communication and more mature handling of conflict.

However, there is a deeper dimension to all this. Several couples confided that driver-behaviour in self or the other had previously endangered the relationship. Not one couple specified this as a primary reason for converting to OAD, rather hiding it under references to general stress, but it was clear that drivers such as control issues,

perfectionism, over-working, and inability to handle conflict, all of which are stress-related, could play a major role in endangering a relationship.

5.6.2 The children

On some farms, farming staff had young children who were affected by the hours their parents worked. Every family is unique, but certain commonalities could be discerned.

One major finding was that OAD milking is indeed very family-friendly. Time is the essential dynamic of OAD , and for young families, in particular, OAD frees up precious time for parents and children to spend together. Add to this much lower stress levels and the result is parents who have time and energy to invest in quality parenting.

5.6.3 The grandparents

Another interesting dynamic was the role and relationship with grandparents. Not every family had grandparents living nearby, but where that was the case several respondents reported that freeing up their afternoons gave them time and freedom to visit ageing parents or to take care of them. In some cases, retired grandparents helped out on the farm, giving them something valuable and meaningful to do, and in some cases grandparents were able and willing to act as relief milkers *"provided we milk OAD only"*.

5.6.4 Retirement and extending working life

For farmers nearing the retirement age, OAD milking represents a significant opportunity to extend their working lives. This brings with it an extension of meaningful production, income, enjoying capital growth, and sometimes caretaking the farm until a new generation is ready to take over. Where previously, milking TAD, retirement represented an abrupt cut-off point, OAD turns retirement into a gradual, more controlled process with many more choices and options.

5.6.5 Staff issues

Staff can be both the cause and the victims off stress on dairy farms.

One purpose of this study was to probe staff issues in relation to OAD, but as it turned out this group of respondents included only four farmers who employed more than one staff member. The largest employer in the group actually went to OAD in response to staff welfare issues: they wanted to give staff a better working environment, better quality of life, and encourage them to be better parents.

However, the major dynamic in this group of respondents was a strong disinclination to be an employer. It is not clear whether this attitude is typical of all dairy farmers, but certainly in the farmers who chose to go to OAD a recurring theme was that it made it possible to do without staff.

In this group of farmers, by far the most prevalent reasons for wanting to farm were lifestyle and related reasons: love of animals, breeding animals, being one's own boss, and bringing up a family. These are "traditional" reasons, and would have been the same for previous generations. "Modern" reasons for farming, such as "I like managing and motivating staff" i.e. being an employer, did not figure at all. It would have been useful to compare this group to a representative group of New Zealand farmers or a group of TAD

farmers, but it is clear that this group, at least, have a traditional, lifestyle-oriented, independent and animal-centred motivation to dairy farming.

A range of reasons for not wanting to employ staff were cited:

- dislike of having staff live with the family, with resultant lack of family time and privacy;
- specific instances of having been let down by staff at crucial times during the season;
- unacceptable legal requirements regarding employment of staff;
- a sense of personal inability to be an employer and exercise authority;
- financial reasons, citing significant savings (both obvious and hidden savings) in not having to employ staff;
- a sense of freedom and independence, of control regained, by working alone or just with the help of family.

5.7 Disadvantages and drawbacks of OAD

Although every respondent reported an overall advantage to OAD, some drawbacks were pointed out:

- Milking OAD takes longer per milking. This can become boring, and it could be difficult to maintain concentration;
- Tanker pick-up times can be a complication that must be negotiated;
- OAD may be difficult to fit into a high-input system. More research is needed for this;
- The jury is still out on the issue of somatic cell counts;
- Farmers who go to OAD to avoid employing staff may be creating a glass ceiling for themselves, and blocking future expansion and growth;
- From the staff point of view, a worker who was previously employed on an OAD farm might find it hard to adapt to a TAD system. Also, he/she might find it hard to convince a new TAD employer of his/her ability to perform well in a TAD system.
- One thoughtful comment was that “there are issues of human wisdom and nature” involved. “Farmers will initially benefit from a move to OAD but they will probably not use the freed-up time wisely…they will revert to old bad habits”.

5.8 Conclusions: answering the research questions

The following research questions were formulated:

- What changes happen in human terms when a dairy farmer converts from ‘Twice-a-day’ (TAD) milking to ‘Once-a-day’ (OAD) milking?

- Why did the farmers in the study change from Twice-a-Day to Once-a-Day milking?
- Were their expectations concerning the impact of the change on their personal lives, their families, the staff and the staff's families met?
- How did staff management practices on-farm change after conversion?

After all this discussion, the answers to these questions are simple: our respondents switched because they were looking for a better way to farm. This included better health for their animals, more sustainable use of the land, more production for less input, and above all, a better and more satisfying life for themselves and their families on the land. Of the 20 farms we visited, 19 reported that they had achieved this improvement. One wasn't sure.

Dairy farmers are tired. Not because of hard work, but because of too much pressure.

OAD offers a way to farm better and longer and even, possibly, to make more money. It offers a way for farming families to survive as families; it adds up to better quality of living.

What the future of OAD will be is not clear. Certainly the number of farmers turning to OAD is increasing daily. Higher payouts announced by the dairy companies may encourage this trend, but it is also possible that corporate farming may become the norm, and it still unclear whether OAD will hold any charms for Corporations. Dairy farming as a family venture in New Zealand is under threat, but for family farms, at least, OAD may represent a life raft able to persuade young people to make a career in dairy farming.

APPENDIX 1: Letter to potential respondents

L.U.Letterhead

DATE

ADDRESS of RESPONDENT

Dear

Once-a-Day Milking research

Peter Gatley from the Livestock Improvement Corporation has informed us that you have been contacted by them, and have agreed to talk to me about your experience of Once-a-Day milking. Thank you! I very much appreciate your help.

The title of the research program is "The Human Face of Once-a-Day Milking" and the study will cover some 20 farmers in Westland, Canterbury, Northland, Waikato and the Bay of Plenty. It is being undertaken by the Agriculture Group in the Agriculture and Life Sciences Division of Lincoln University, and is being funded by the Livestock Improvement Corporation (LIC), Dairy InSight (DI) and Lincoln University. The researchers are Rupert Tipples from Lincoln University and Nona Verwoerd, an independent consultant who will coordinate and do the field work.

The main purpose of the study is to discover what the shift from TAD to OAD milking has meant for you and your family, as well as for the other people on the farm. We are not looking at the technical (i.e. production) aspects of OAD, but at the impact and significance it has had for the people and the way you live. We would also like information on the changes, if any, that you experienced regarding staff management and staff productivity.

Any information you give us will be treated in strict confidence. The reports we generate will contain only a privacy-controlled thumbnail sketch of your farm, with nothing in it that will identify you or anybody else on the farm. If there is any question you choose not to answer just say so- no need to explain why. You will receive a copy of the final report to thank you for your help.

I would very much like to talk to as many people on the farm as possible. This includes your spouse/partner, staff, their spouses/partners, and even any grandparents or other extended family members who live on-farm and would be interested in talking to me. To try to be as brief as possible I will use recording equipment, and I will try not to upset your work schedule more than I can help.

The value of this study lies in sharing your experience of shifting from TAD to OAD with other farmers who may be contemplating the same move. Having done this yourself,

you will understand that farmers may see it as a risky strategy. The implications around production, finance, animal health and so on have been at least partially researched, but the possible advantages and disadvantages for the people on dairy farms have not been fully recorded. It will be helpful for other farmers to know what your experience has been.

This project has been reviewed and approved by the Lincoln University Human Ethics Committee.

I will contact you by telephone some time in April or May to finalise a date for my visit, and look forward to meeting you. If you have any questions or comments, please feel free to contact me at Lincoln 0n (03) 3253838 ext. 8723 or at home at (03) 3243886.

Yours sincerely,

Nona Verwoerd

Researcher

Rupert Tipples
OAD Project Supervisor and
Senior lecturer, Employment Relations

Appendix 2 : CONSENT FORM

THE HUMAN FACE OF ONCE-a-DAY MILKING

I have read and understood the description of the above-named project.

On this basis I agree to participate as a respondent in this project, and I consent to publication of the results of the project with the understanding that anonymity will be preserved.

I agree to the digital recording of the interview(s) provided that only the interviewer has access to this material. The unidentifiable recording will be stored securely for six years, according to University policy, after which they will be destroyed.

I understand also that I may at any time withdraw from the project, including withdrawal of any information I have provided up until data is analysed, and that I have the right to refuse to supply any information I choose not to supply.

Signed……..

Date…….

Name……

Appendix 3: GUIDE TO INTERVIEW

Structural information

1. Farm size and description
2. Herd size
3. Other production
4. Operating structure
5. Topographical complications on farm and map of farm (draw if no map available)
6. Brief history of this farmer on this farm
7. People farm for many different reasons. Why do you farm?
8. What values underpin your decisions regarding the farm?
9. Family system (Description and organigram on clean sheet)
10. Staff system (Description and organigram on clean sheet)
11. When did you switch from TAD to OAD?
12. Why did you switch from TAD to OAD?
13. Was this a risk?
14. If yes, in what way and how did you deal with it? Probe: is this a burning platform or a change of thinking or a change of values? Confirm
15. How did this switch affect your sleeping patterns?...
16. How did this switch affect your eating and drinking patterns?
17. What stresses you?
18. How do you react to stress?
19. How did this switch (from TAD to OAD) affect the stresses in your life?
20. What does the notion of work-life balance mean to you?
21. Has OAD affected your plans for retirement?

Marriage and Family life

22. How has the change from TAD to OAD impacted on your relationship with your spouse/partner?
23. How has the change from TAD to OAD impacted on your relationship with your children?
24. How has the change from TAD to OAD impacted on your relationship with your parents?
25. How has the change from TAD to OAD impacted on your relationship with your staff?

Staff management

26. You have drawn the staff structure on this farm. Could you also please show me the way it was before you switched from TAD to OAD?
27. Has the way in which you select staff changed? YES [ ] NO [ ] If yes, how? Has the switch from TAD to OAD given you a recruiting edge? YES [ ] NO [ ]
28. How has rostering/ time structuring changed?
29. Have there been any changes in wages? (Hourly and take-home)
30. Have you changed the way you house staff?
31. Have their housekeeping/personal habits been affected?
32. Do the staff have any other fringe benefits? Has your policy on this changed?

Has there been any change in training of staff?
Concerning productivity: Have there been changes in:

33. staff motivation (morale)
34. team spirit
35. safety policy and procedures
36. accidents on-farm
37. concentration (accuracy/mistakes)
38. absenteeism
39. conflict with/among staff
40. Finally: what are your plans for the future? Will you continue with OAD milking?
41. What would you recommend for other farmers considering the move from TAD to OAD?

Thank you very much for your help.

Appendix 4: Thank-you letter to respondents

Letterhead
Address

Dear

"The Human Face of OAD Milking" research project

Thank you very much for the time you spent in discussing and answering my research questions. You gave me some really valuable information and insights and I appreciate your help very much.

I'll be posting you a copy of the research report towards the end of the year.

Yours faithfully,

Nona Verwoerd
Researcher

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