Nuffield Farming Scholarships Trust

A Trehane Trust Award

THE TREHANE TRUST

Wealth creation in dairy farming

Rhys Williams

July 2011

Acknowledgments

In completing this report I would like to thank:

- The Nuffield Farming Scholarship Trust, in particular John Stones.
- My sponsors, The Trehane Trust Award.
- My wife Kelly, for her unwavering support and encouragement throughout my Nuffield Scholarship.
- My business partner David, for his unlimited support and allowing me the opportunity to leave the business for long periods of time.
- To all who helped me during my Nuffield travels, the generosity by so many made my Nuffield experience truly memorable.
- Mathew, Eifion and Elgan, who ran the farms superbly in my absence.
- Tom Philips who encouraged and helped me to apply at the beginning.
- My fellow Nuffield Scholars, who made the journey one I will never forget.

Plus all those who hosted me on my Nuffield study tour: see Acknowledgments at the end of this report

DISCLAIMER

The views expressed in this report are entirely my own and do not necessarily represent the views of the Nuffield Farming Scholarships Trust, or my sponsors.

Contents

Executive Summary

On my Nuffield Farming Scholarship I wanted to look at farm business structures that encourage and enable both expansion and rapid wealth creation.

The study was undertaken because I was convinced that pasture based dairy farms in the UK can be very profitable. There are very good opportunities to expand and remain profitable. I see that equity partnerships create opportunities for good young entrants into the dairy industry to progress to ownership and wealth creation.

I visited Ireland, USA, Chile, Uruguay, New Zealand and France in order to establish and understand what the possible wealth creation targets were and how they were being achieved. I wanted to analyse their potential for application in the UK business environment.

The main objective of my study was to fully understand all the factors that contributed to a successful farm business.

One of the chief things I observed early on in my travels was that every business person who wants to succeed must understand about people management skills. As one farmer pointed out to me, every farm has milking facilities, cows and grass, but one thing that makes them all different is the people on those farms, and how they are managed.

So people management and development is one aspect that I will cover in this report.

I will also emphasise the importance of having the right cow for the system, and recommend management practices for wealth creation in dairy farming.

Finally I extol the benefits of once a day milking systems.

1. Introduction

I am married to Kelly and have four children, Cai Wyn, Cara Enlli, Cian Aron and Celt Dafi. We farm in partnership with David Wynne Finch and our farming company is called Padog Farms Ltd.

Both David & I are directors and have equal shares.

Padog Farms is a company based on cow ownership with all land rented.

We farm 650ha in North Wales consisting of two milking units, one unit based on the Llyn Peninsula milking 1000 cows, and the second unit located at Pentrefoelas with 400 cows. A total of 430ha is allocated to the milking cows with a strong emphasis on low cost milk production. All cows are calved in February, March and April to fully utilise grass. All other land is allocated to young stock and winter feed.

The aim is to create a very simple system that can be easily replicated.

Me with some of my cows

The Llin Peninsula, North Wales

2. Background

I was born on a 10 acre smallholding in the village of Padog which is located in the upper Conwy valley near the foothills of Snowdonia.

My parents were involved in farming all their working life. My father worked for over 25 years for the NFU & my mother worked for the Ministry of Agriculture. A big influence on my career was being brought up in a strong agricultural community. After finishing school I went on to study agriculture at the Welsh Agricultural College in Aberystwyth, and from there I took my first steps to what has become a fruitful pathway into farming.

Born and bred a "sheep man", I ventured into the world of dairy cows when college finished, not by first choice I might add, but at the time dairy jobs were well paid. The farmer in question gave me a three months trial. I stayed for nine years, bar a working holiday to New Zealand. My love of dairy cows was born! During my visit to New Zealand my second farming love evolved: "Grass". I was amazed how simply the Kiwis could produce milk. It suited me down to the ground as I am a person who thinks in a simplistic way.

In the late 1990s I became very disillusioned about the future of my farming career. I desperately wanted to farm on my own account but felt the opportunities were not available at the time. I decided to have a career change, sort myself out and re-focus. I obtained a job as an Animal Health Officer with Defra. My Defra appointment coincided with the Foot and Mouth outbreak of 2001.

This was a big step in my development and probably one of the biggest influences on my working life. In my previous employment I had been working on my own, with just the cows for company. All of a sudden I was thrown into a situation where I was managing people.

Whilst working in the area surrounding Welshpool, I was put in charge of cleaning 30 farms and on those farms there could be teams of 5-10 people. I quickly developed people skills and an understanding of managing people and I really enjoyed it. However it would not be until several years later that I discovered that the skills I acquired whilst working with Defra would prove invaluable.

After 18 months with Defra, one thing was clearer than ever: I wanted to farm. With this in mind, Kelly & I decided in May 2002 that New Zealand was the best place, at the time, to deliver that goal.

Our destination in New Zealand was Southland. We arrived there with a firm goal in mind: "500 cows owned in five years". We knew this was possible through the sharemilking system and sheer hard work.

As it turned out we arrived at that goal in the timeframe set out, but back home in North Wales and not in New Zealand. After two years in New Zealand we came home to Wales. This was not an easy decision I might add as we had made very good progress in New Zealand. We were well on the way to achieving our goal and felt very much at home there. However, the lure of home, & the prospect of developing a New Zealand-style farming operation in North Wales was too much to

turn down. I had received an offer from David Wynne Finch and we were excited at the prospect of working with him.

In the last six years Kelly and I have got married, had four children and jointly developed a business owning 1400 dairy cows.

In this report I will try and outline the key drivers to achieve an effective profitable expanding dairy business.

3. Study Tour Overview

3a. USA

I visited USA for the Nuffield Contemporary Scholars Conference (CSC) in March 2010, and returned in September 2010 for two weeks. The Contemporary Scholars Conference lasted just over seven days, and turned out to be a dynamic collection of farmers from six countries. The group blew me away and was both impressive and infectious. I felt very humble to have experienced such a unique occasion. The CSC was based in Washington DC for three nights, then moved on to Gettysburg for the remainder of the trip.

The highlight for me was the day we spent on the Gettysburg battlefield, and the leadership course that followed in the afternoon. I found it absolutely compelling and gained new insights and new ideas on:-

- How leaders can make the right calls amid murky, ill defined conditions, incomplete information and high pressure.
- The intricacies of decision making in very large organisations, and how culture affects what's possible.
- How successful leaders share their vision for success and reduce the possibility of misinterpretation.
- How leaders develop imagination and courage in themselves and others.
- Why character is a central element of leadership.

All of which is very relevant to any expanding business.

I returned to the USA later in the year, when I spent two weeks there from the end of September to the beginning of October 2010.

First port of call was the World Dairy Expo in Madison Wisconsin; it is a five day event showcasing dairy cattle and the newest technologies available to the dairy industry. *(See picture overleaf).*The show is held annually and is considered the largest and most important dairy cattle show in North America. The highlight for me was the grazing pavilion, where I spent a couple of hours, being educated that grazing cows outdoors was not as uncommon in America as I had thought.

Whilst in the USA my focus was on large scale dairying; both low cost grass based and also high cost, high output confinement systems.

I visited several dairy operations, and came to the conclusion that in any system of milk production, if the level of management is high and the operation is performing in the top 5% of the chosen system, then its survivability and growth potential is hugely increased.

Outside the grazing pavilion at World Dairy Expo, Wisconsin

I also had the unique opportunity of travelling through the Mid West at harvest time, spending time with a couple of corn and soya bean farmers, and learning about ethanol production and visiting an ethanol plant in Iowa.

Maize corn harvest in full swing, farmer Tim Richter taking a breather whilst harvesting 7000ha of corn

Agriculture is a major industry in the USA and the country is a net exporter of food. Of USA agricultural products, milk is third in terms of value - corn and cattle meat take the first two places - and I truly value the opportunity I had to experience these different sectors of USA agriculture.

3b. Ireland

I visited Ireland in mid June 2010 and spent five days there. This was a "contact collection" visit. Main port of call was Michael Murphy.

Michael Murphy is a pioneer in high profit, grass based dairying not just in Ireland, but also around the world. He has invested in farming operations in Ireland, New Zealand, Missouri, Chile and Argentina. Many of these ventures are equity partnerships or companies with 15-20 shareholders. In addition he is director of seven companies outside farming.

Michael started farming in 1974, at 24 years of age, when his father signed over a 127-acre beef farm. He had just got married and had limited savings. In the 36 years since then, Michael and his wife have grown their assets at a compounding rate of 18.7% return on equity (ROE) per annum after tax and personal drawings. To put that in context, the top 10% of Irish dairy farmers achieve a ROE of about 10% per annum.

A key success factor for Michael over the last 30 years, was that back in 1974 he borrowed a large sum of money to enable him to convert the beef farm into dairying. He borrowed the money at a 15% interest rate, so he sought to invest only in areas which would give him a 15% return. In effect, because of very high interest rates, he was forced to set a very disciplined investment hurdle rate of 15%. **But even as interest rates have fallen he has continued to use this hurdle rate as his investment ROE requirement.**

Michael explained to me what he sees as the key principles which deliver an 18.7% ROE per annum. He believed these principles can best be understood by thinking of them as three stages in your working life.

Working stage	Earning potential	Value per hour
Operational (worker)	Low	£8.50
Management	Medium	£50.00
Strategic	High	£500.00

Here are some examples to drive home clearly what each of these stages mean in earning potential, and why it is so vitally important to devote more and more of your time to moving from the worker stage to become a strategic investor.

- The operational area is straightforward - people can be hired at £8.50 an hour to milk cows and drive machinery.

- A manager's time is more valuable. Take for example the impact that grazed grass has on total production costs. A change of ±1% grazed grass as part of the total dry matter intake leads on to ±0.2 pence per litre difference in profits. That's one real benefit of devoting time to managing the business to achieve low costs. Michael calculated his management time as worth £50 an hour.

- Even more valuable was his time spent strategically. Take a business throwing off £25,000 free cash a year. If this gives an annual compounded

ROR of 5% it grows to £900,000 in 20 years. If however the annual compound ROR can be increased to 15%, it grows to £2.9 million.

The extra £2 million is why Michael values his time as a strategic investor at £500 an hour, and why he has allocated more of his time to this area.

- Michael also pointed out the importance of **absolutely straight forward business dealings.**

- **Integrity is a key quality in people.** Avoid association with people who don't possess integrity.

  Michael quoted Warren Buffet of Omaha as saying *"When evaluating people look for integrity, intelligence and energy. If somebody hasn't integrity pass on quick, because there are few worse things in life than an intelligent, energetic crook".*

- Another important lesson Michael learned early on in life was to **treat all people with respect, irrespective of their status in life.** The golden rule is to do unto others as you wish they would do unto you.

- Michael also placed a big **emphasis on planning**; he believed that each individual or partnership, in any business, should have their own well-thought-through strategic plan which is right in terms of personal, business and investment objectives plus in risk levels for themselves.

- **Don't be driven by peer pressure.**

- If changing to new areas then gradually **widen your circle of competence through research, reading, conversation and benchmarking with highly competent people.**

- **Invest in what you know & where you are comfortable.** Planning without good knowledge is a cardinal error. Sensible planning will lead to clear goals, which drive consistent progress.

Michael explained that there are five main principles to enjoying dairying and turning profit into wealth.

1. Devote time to rapidly move up the value added chain for earning potential.
2. Simple grass based production systems free up time.
3. Use this time to acquire relevant knowledge.
4. Stop, think and plan your business based on this knowledge.
5. Remember, always have fun - we only live once.

The recently published **Food Harvest 2020** report heralds an exciting phase in the evolution and growth of the Irish dairy industry.

The main targets of the report are the growth of the food and beverage exports by one third to €12 billion, the increase of milk production by 50%, and the addition of 20% to the value of the beef sector.

The ending of milk quotas in 2015 will give the sector, for the first time in 31 years, an opportunity to achieve real growth and scale efficiencies. This will allow individual farmers to grow their own enterprises without the need for wasteful quota purchases.

3c. Chile

Following on from the USA trip I spent a week in the Los Lagos region of Chile. The focus of my visit was Manuka Holdings, a New Zealand owned company buying land and converting into dairying.

Chile's national dairy industry processes approximately 2 billion litres of milk each year. 80% is supplied as fresh milk directly from producers with the majority of this milk destined for the domestic market. Both producers and processing plants are located mainly in the south of the country where a dairy cluster has been developed, thus improving the productive efficiency of this sector.

The expected on-farm growth in milk production is projected to increase total annual production to 3.5 billion by 2020. Growth potential in Chile is huge and returns after converting and stocking land are very high.

This provided me with a very good insight into how expansions of dairy farming overseas can be achieved.

3d. Uruguay

I finished my Americas trip with a week in Uruguay, visiting New Zealand Farming Systems Uruguay Ltd, which is a South American farm operator, controlled by Singapore's Olam International Ltd.

Like Manuka in Chile, NZFSU uses Kiwi know-how to develop dairy farms in Uruguay.

3e. New Zealand

On the 7th of December 2010 my wife Kelly & I plus our three young children at the time (we now have a fourth addition) boarded a plane in Manchester for a combined Nuffield travel and family holiday. As Kelly & I had lived there in 2002-4, this was an ideal opportunity to catch up with friends and people who had helped us on our journey of wealth creation in the dairy industry.

In the following five weeks we managed to travel around both islands in a camper van, visit in excess of 25 people related to my Nuffield topic, spend Christmas and New Year with friends & stay relatively sane! It was an experience enjoyed by all. I would highly recommend travelling with your family as this gets them feeling part of the whole Nuffield experience.

There are several reasons why I chose New Zealand as part of my study.

- The dairy industry is a major contributor to the New Zealand economy, with dairy products accounting for 28% of export earnings in 2009.

- New Zealand is a major player in the world trade of dairy products with Fonterra responsible for more than a third of International dairy trade.

- New Zealand dairy farmers operate in a competitive farming environment, with farmer control leading to early uptake of technology and improved management systems. Farming systems are generally low cost pasture based systems; feed grown on farm is the major feed input so land productivity is a critical determinant of farm income. New Zealand dairy farmers operate in an unprotected environment where the risk is carried by the industry, without government subsidies since the 1980s.

Dairy farming in New Zealand has undergone substantial changes in the last 10 years. Farm numbers are declining but herd sizes are increasing. Land prices, farm working expenses, stocking rates and debt servicing have all increased dramatically. New Zealand farmers have enjoyed and in fact relied upon the capital appreciation of their land as a major source of return on investment.

Farmland of all kinds has increased in value between 8% and 12% per annum (depending on the cycle) over a sustained period of time. A part of my study was to understand this capital appreciation that had developed so strongly in New Zealand over the last 15 years and see how the best people had captured it and used it to their advantage.

The traditional career route for individuals in the New Zealand dairy industry is from worker to sharemilker to owner-operator. In recent years new routes have emerged. Investigating and gaining a clearer understanding of the variety of ownership structures that now exist and how they are managed was something I wanted to grasp. I wanted to capture the participant's interpretation of the advantages and disadvantages of various business structures, and the issues driving change.

At this point in my studies and travels I had become aware of the potential of Once a Day Milking (OAD) as a tool to take our business forward. So I took the opportunity to visit some farmers already practicing OAD. It became obvious to me that OAD milking was definitely worth considering, especially on low cost spring calving units, and it would work on farms milking 50 or 5000 cows.

Whilst in New Zealand I spent the day with the Livestock Improvement Corporation (LIC), a dairy farmer-owned cooperative and one of the largest integrated herd improvement organisations in the world.

I was very impressed by the services that LIC offered farmers in New Zealand, which included herd testing and milk analysis, artificial insemination, animal health, farm advisory, herd recording, DNA analysis, farm automation and farm mapping systems.

3f. France

This was the final leg of my Nuffield travels In late June 2011 I joined up with three of my fellow Nuffield scholars and spent a week in France.

Although it wasn't all relevant to my subject, it was highly informative and gave me an insight into agriculture in another country. We travelled from Brittany down to the Pyrenees Mountains, looking at Once a Day milking and beef and sheep techno grazing. It was all very interesting and the enterprises had one thing in common, the use of grazed grass to drive down farm operational costs.

France is approximately twice the size of the United Kingdom but has a similarly sized population. Land is comparatively cheap and prices are controlled in such a way as to safeguard farmland and ensure it remains at an affordable price for those wishing to work and live on farms. The French still feel a deep affection for the land and are determined to safeguard their way of life and culture. The French government has a policy of supporting farmers, especially in under populated areas, and provides incentives for those young people wishing to set up a business working the land.

Land with quota can be purchased from €2,300 per ha, or rented for as low as €76 per ha. It is even cheaper where there is no milk quota. For those wishing to rent, agreements are usually signed for nine or eighteen years, during which the farmer has security of tenure. Young farmers have priority when quotas are allocated; grants are also available to young farmers (qualified in agriculture as being up to 40 years of age). Older farmers can take out low interest loans.

One good example of this are Laurence and Erwan Le Roux who farm in Brittany. Each of them is from a farm consultancy background. They started farming ten years ago after successfully obtaining a tenancy on a 66ha holding. As a start up they secured a low interest loan of €300,000, all of which was unsecured and also obtained a €30,000 start up grant from the government. They were allocated the quota.

Laurence and Erwan are a fine example of a young couple, making the most of an opportunity; they have grabbed it with both hands, going from strength to strength.

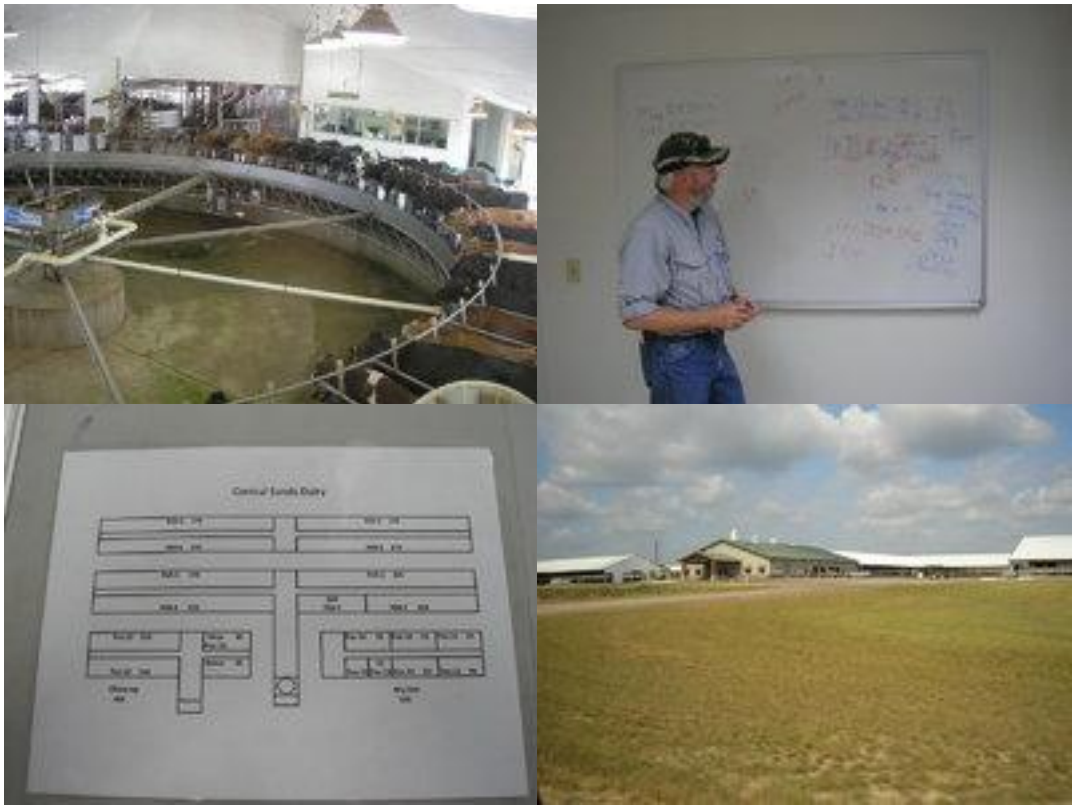
For the majority of the ten years, they have practised Once a Day milking with a herd of 90 cows producing 330,000 litres of milk. The cows calve in a 7-week block in an organic farming system. They aim for a 20% return on assets (ROA) and have averaged 18.5% for the last five years. The farm profit has averaged 57% of Gross Farm output for the last five years. Their operation is very environmentally sustainable. They were publically acknowledged for this achievement when they won the Sustainable Agricultural Award in France this year.

I was very impressed with the backing the Le Roux's were offered by the French government to get started, something the UK is severely lacking in, and surely there are lessons to be learnt.

see picture overleaf

Erwan Le Roux is second from left with fellow Nuffield Scholars and French Farmers.

The photo below refers to the Case Study detailed overleaf – Central Sands Dairy



Clockwise from left: cows milked in 72 point rotary, Dr Gordie Jones, map of farm layout, Central Sands Dairy.

4. Case Studies

4a. Dr Gordie Jones, Central Sands Dairy, Nekoosa, Wisconsin USA

Central Sands Dairy, as its name suggests, is smack dab in the heart of Wisconsin's "central sands" region. The area is noted for producing irrigated crops like potatoes, corn and other vegetables. It has an abundance of groundwater not very far below the surface and sandy soils. Geordie is the managing partner of an operation that milks 3,800 cows, with a goal of exceeding 4,000. The business is a few miles from Lake Petenwell, formed by a dam on the Wisconsin River. Having practised veterinary medicine for 25 years, Gordie has consulted with dairy producers and veterinarians throughout the world on herd performance, nutrition, environment and housing design to keep cows clean, dry and comfortable.

Whilst driving up to Nekoosa from Madison the main thought I had was: why was a low cost grass producer going to see a high cost confinement system? What did I expect to get out of the visit?

On arriving at Central Sands I decided even if I didn't get anything out of the visit that would benefit my report, I'd be more than happy to see a different system at work. As it turned out the visit to Gordie was one of the highlight of my travels.

One of the first things you should know about Gordie is his reverence for the dairy cow. He explained to me that she is the reason we have civilization. She truly is the foster mother of the human race. Without her we do not have civilization; she gave us milk, cheese, other dairy products and her meats. She has protected us from smallpox, the most deadly disease known to the human race. Her milkfat in the form of CLAs (conjugated linoleic acid) protects us from cancer.

Gordie has devoted his dairy veterinary career to taking care of her and making her comfortable. In Gordie's own words: "The fun part: if she's comfortable she produces more".

In 2007, with Fair Oaks Dairy Farms and Ag Alliance, Central Sands Dairy LLC (CSD) was set up. Gordie has been based at CSD ever since opening the dairy on September 15, 2007.

CSD was designed with a simple thought in mind and that was to keep every task simple and to keep the cows clean, dry and comfortable.

The herd is 33% Jerseys, 66% Holsteins/Jersey crossbreds. Gordie's goal was to have a 100% Jersey herd. He wanted Jerseys for their milkfat, protein and feed efficiency. He is currently breeding all his cows to Jerseys. The milk fat is important for the production of cheese – processing is a major industry in Wisconsin".

A strong believer in engaging with the public, Gordie spends around one day per week on education and engagement, recognising that large scale units can attract more than their fair share of controversy. Large dairy units in the USA attract hostility from the anti-animal lobby and from other farmers, as well as from local people concerned about smell and pollution. Gordie explained: *"it is essential that farmers take PR seriously and are professional in the way that they communicate with their communities".*

This is something that is highly relevant for us in the UK, and needs attention especially if we are to gain the faith of the consumers.

"Dairy farmers look after the land,
dairy farmers look after their cows
and dairy foods are good for you."

Those are the three messages that all dairy farmers should communicate to the public, according to Gordie.

Gordie is without doubt the best cow person I have come across. His attention to detail is second to none and his unit was extremely well managed. It seemed to work effortlessly, but I would imagine that it took a long time to perfect the system. He put a lot of this down to his senior management team, all made up of Mexican labour. They were well trained, exceptionally hard workers and also very well paid.

A large proportion of the success of the dairy in my view was down to the breeding policy Gordie implemented. It goes a long way to demonstrate that crossbreeding in any system and importing that hybrid vigour into a herd is essential to a growing dairy farm business.

Central Sands Dairy – Vital Statistics

3,200 cows in milk, 600 dry	Sand bedded cubicles
4 row free-stall barns	Herd average 9,500 litres
72 point rotary parlour	4.1% bf, 3.1p, SCC 120
300+ cows calve/month	Staff of 18, mostly Hispanic
Methane digester powers 750 homes	Cows milked 3x per day

Jersey cows at Central Sands Dairy

Gordie's whole operation was a million miles away from our own style of farming; it required a huge capital cost to start up. The whole unit cost $45-50 million in 2007, plus the fact that feed for the cows was nearly all bought in. The dairy was sited on 80 acres and contracts with local arable farmers were in place for forage needs. This is a very common model for setting up large scale dairy farms in the USA.

I will always be a grass based low cost producer of milk, but one thing that struck me about Gordie's operation was, where these types of systems are done right, cow welfare and husbandry are second to none. They do work exceptionally well.

I came away from Central Sands Dairy pleasantly surprised, especially with Gordie as a person. His enthusiasm for cows was incredible and his constant ongoing research to provide them with a stress free working environment made me think a lot. I came away from an intensive three times a day system and I can honestly say that the cows I'd seen were in superb condition, in excellent facilities and looked extremely content. It really made me think: were we putting the cows first in our system and was there a way of actually looking after them better without compromising on costs and complicating our system? I discovered the answer further along my travels.

4b. Manuka SA, Lagos, Chile

Manuka SA, subsidiary of Rimu SA, is a New Zealand company operating in Chile that is focused on achieving efficient, pasture based milk production. Since establishing operations in early 2005, Manuka has grown rapidly and now has established itself as a significant foreign investor in Chile's national dairy industry. Manuka's most noteworthy purchase was of 19,500 ha in 2008 of the Hacienda Rupanca Station now known as Hacienda Coihueco (HC). Besides HC, the company has 13 other farms which contribute to a total 22,500ha of land owned by Manuka.

Manuka SA headquarters, Hacienda Coihueco

On my arrival at Manuka's headquarters I was greeted by Zachery Ward who is Head of Production and Project Manager, along with Production Manager Louis Barria S, and they gave me a fantastic insight into Manuka SA over the next few days. Currently Manuka has 7000ha in milk production. Around 17,500 cows are milked through 35 dairies in herds of 600 producing 79 million litres of milk last year.

Chile cows grazing grass

Manuka has 350 employees. A quarter of its milk is produced by sharemilkers. It's already the largest grass based milk producer in Chile, supplying four dairy companies including Soprole. Zachery informed me that the company is well on target to milk 43,000 cows by 2019.

The southern part of Chile is popular with Kiwis as it has similar climatic characteristics to parts of New Zealand. Pasture growth is excellent and the volcanic soils are naturally fertile and free-draining. Chile offered a welcoming environment for foreign investment, a reciprocal tax agreement with New Zealand, good climate, infrastructure and availability of labour and processing. There are no disease problems, reasonably priced inputs and reliable electricity supplies.

"Chile ticked all the boxes, that's why they chose to invest" Zachery pointed out. The first purchase of 180ha of land was in 2005 which grew to 300ha over the next two years. Conversion was undertaken but Zachery said the quality of cows available limited production due to their North American bloodlines. While they responded well to being fed concentrates, which happens for most of the year, grass forms the major part of their diet.

Breeding policy is to use New Zealand genetics as they believed these are the most suitable animals for converting grass to milk, calving annually and being able to walk reasonably long distance without too many feet problems. Jersey semen is being used to produce crossbred cows.

The old and the new. Above newly developed milking facility below old style milking facility.

The farms are a mixture of the old and the new. Some have modern 40-a-side herringbone milking sheds, calf rearing sheds and improved pastures. Others have smaller, older type sheds, although these sheds are being replaced by new ones. The top farm is producing 14,000litres/ha and there is a lot of potential to match this on other farms as they are developed. Temperatures are not far off ideal with pastures able to produce 12t of dry matter (DM)/ha/year. One farm is growing 16t /ha/year with winter growth rates better than expected. There are good free draining topsoils several metres deep on the farms. Weed species had to be eliminated with a cropping program required to successfully achieve weed free pastures.

Farm development is cheaper in Chile compared to New Zealand and most materials are readily available. However finding the expertise to build and install milking sheds and accompanying technology can be difficult. Manuka has a New Zealander, Chris White, overseeing development and employing local contractors. Paddocks are being sub divided and the feeding system is being changed from mainly concentrate and silage-based to feeding cows on pasture for most of the year.

Winter can be very long, from April through to November. Very much like the UK, the Chileans house cattle during winter because of the wet. The New Zealand approach is to winter cows on pasture, but this is proving more of a challenge, and the wintering system is now moving towards wintering cows on forage crops and conserved silage. A goal has been to move all cows to a spring calving date, as previously calving was spread throughout the year.

Cow tracks have been improved and horses that walk faster than cows have been replaced by mountain bikes for staff to bring cows in for milking. Horses are still used for dry stock and it's not uncommon to see a horse and cart on the farm for transporting calf milk.

Chilean transport: - now only used for dry stock.

A lot of staff education is required with milkers earning £6000/year as well as employers making contributions to pension plans. Discussion groups formed a large part of that education, as some of the employees had been on a farm all their lives, but lack system training.

People in general in Chile are very warm and welcoming. At first I was very unsure of the whole situation, especially with the language barrier, but after six days I felt very much at home. It was apparent that the people on the Hacienda enjoyed their work. They were always positive and had a big smile. Zachery commented that he believed that because Chile has been relatively poor compared to New Zealand or UK, locals value education and work opportunities very highly.

Local Chilean farmer

Many farms are owned by and run by local Chileans, although wealthy absentee owners from Santiago also own properties in the area. The lakes and mountain scenery are a big draw. Germans who emigrated during the late 1800s make up a unique part of the farming community. Buildings, cuisine and farming methods are quite European in nature and it's common to see blonde-haired blue eyed Chileans.

It is an advantage that Chileans are familiar with New Zealand farming, and many students each year attend University in New Zealand. There is also a working holiday scheme allowing 1,000 young Chileans a year to work in New Zealand. This was evident at Manuka, with a large percentage of the young managers having worked for at least a year on New Zealand farms to learn the basics. If Manuka is to thrive and reach its goal of 43,000 cows by 2019 it is crucial that they carry on the development of the young Chileans.

One challenge Manuka had and was working towards overcoming, was breaking through social protocols when training staff. In Chile social norms mean that there are some people who are happy to put on cups on cows for ever, while others think it's their job to float around in a pick-up pointing the finger. This is where share milking can be very successful. At present all bar one sharemilker employed by the company are from New Zealand or European countries.

The company now has one Chilean sharemilker which they are enormously proud of, and hope that is where the future lies.

At the time Manuka was originally buying, land was available at a reasonable price, with the most expensive farm bought for the equivalent of NZ$3,300 an acre, and the cheapest at NZ$1,300 an acre. When you compare it with the New Zealand scenario

at that point, NZ land was $15,000 to $20,000 an acre. When you consider this, and that returns from dairying are very similar to New Zealand, plus land is valued on production, it has turned out to be a very wise move. I worked out with Louis that after buying, converting and stocking the land, returns of 12% ROE should be more than achievable without taking into account capital appreciation.

During my travels I visited a number of large scale cooperative dairy farm ventures, and I'm certain that Manuka are the most progressive of them all. The main reason for this is they have a strong management team, business structure and a positive human resource environment. They have an excellent CEO, Juan Carlos Petersen W. whom I met briefly for thirty minutes (he came to Manuka from the salmon industry). He possesses top leadership skills, a strong personality, is multilingual and has very good PR skills.

Manuka have embraced Chile and Chilean people, and adapted to the country and their culture. They are implementing changes slowly but steadily and are not too direct in their ways.

I was very impressed by the way Louis was adapting the Chilean cows to the New Zealand way of farming and still achieving good production and fertility results. I can see huge inroads being made in the next five years especially when the New Zealand bred cows come on board.

I think a key part of the success was finding a country that was very similar in climate and grass growing potential to New Zealand, and where land values appreciate with good management practices. It is still early days for the company, which has around US$300m in assets but in terms of investments there has been a substantial gain already. The investment is likely to double in value every four to five years and pay a dividend of about 3.5 percent per annum.

4c. Dairy Holdings Limited, Timaru, New Zealand

Whether running one dairy farm or seventy, one true variable in a farm system is its people - something illustrated well by Dairy Holdings Ltd.

I'd heard good things about Dairy Holdings. Various people had referred them to me on my travels, so I was especially pleased when Graeme Blair, Farm Operation Manager for Mid Canterbury, agreed to give me a morning of his time.

Graeme Blair

The New Zealand dairy operation of Dairy Holdings is conducted through four autonomous wholly owned subsidiary groups, Dairy Farm Holdings Ltd, Clumber Farms Ltd, Livestock Holdings Ltd and West Coast (Dairy) Ltd. For the 2010/2011 season, these groups will operate 58 dairy units on 14,201 effective hectares, milking 43,439 cows to produce approximately 15.1 million kilograms of milk solids.

Of these dairy farms, 18 have been operated from 1st June 2010 under 50/50 sharemilking agreements, whereby Dairy Holdings supply the land, buildings and infrastructure. The sharemilker provides the livestock, plant and machinery necessary to operate the farm. A further 15 farms are run under Lower Order sharemilking agreements, where the sharemilker provides the plant and machinery necessary to operate the farm and may provide some of the livestock. There are 8 farms under Contract Milking Agreements where the milker provides the plant and machinery. Lastly there are 17 farms run as managed farms where the farm owner provides all the farm, livestock and plant and machinery resources.

Under 50/50 sharemilking agreements, sharemilkers are paid 50% of the value of milk solids produced and receive all livestock sale proceeds as the owner of the stock. The sharemilker is responsible for 50% of all feed and grazing costs, all labour, dairy shed operating costs, all repair and maintenance costs, insurance and ownership costs in respect of the sharemilker's plant and machinery.

Under the Lower Order agreements, sharemilkers are paid a fixed percentage of the value of the milk solids produced and provide the labour to operate the farm and pay a fixed percentage of the milking cow feed costs. Revenue from calves over the replacement numbers accrue to the milker, but, as owner of the livestock, Dairy Holdings Ltd retains proceeds from cull cows sold. All animal health expenses are paid by the farm owner.

The Contract Milking Agreement is similar to the Lower Order Agreement, the only difference being the milker is paid a fixed payment per kilogram of milk solids produced.

On managed farms, all income accrues to, and all costs are borne by the farm owner.

Two farm operation managers and four farm supervisors oversee the day-to-day dairy farm operations and are generally responsible for about 10 farms each. Five of the farm supervisors also operate their own dairy units or farm under sharemilking agreements within the group.

Dairy Holdings' dairy farms were budgeted to produce 15.1 million kilograms of milk solids in the season ended 31 May 2011 supplying the processor, Fonterra

Cooperative Group Limited with 14.01 million kilograms, and 1.09 million kilograms of milk solids to Westland Co-operative Dairy Company Ltd. In addition to its dairy farming operation, Dairy Holdings through its wholly owned subsidiary Livestock Holdings Ltd operate 14 large-scale grazing and dry-stock properties in Mid-Canterbury, Northern Southland and West Otago. The dry-stock operations are responsible for the management and return of approximately 7,500 in-calf heifer replacements to the dairy units each year. In addition to the dairy heifer operations, the grazing blocks also provide dairy winter grazing and carry dairy service bulls and carryover cows as seasonal conditions allow.

Graeme said that he believed the company has struck a balance between sharemilkers and farm managers that benefits both staff and company shareholders. The ratio of management systems has been defined by the size of the individual farms, and over time properties of more than 800-900 cows will be run by managers, and farms 500-700 cows will be run under 50/50 sharemilking agreements.

Dairy Holdings challenges the current perception that sharemilkers can't buy farms. Graeme commented that farm ownership has never been easy and never will be easy, coming with personal sacrifice, hard work and smart thinking. But for those with these attributes and the necessary drive it is certainly still possible, which is borne out by the movement of the company's own people through the system to farm ownership.

> "*Achieving high levels of performance on a farm does not necessarily mean a good sharemilker or manager. However a good sharemilker or manager must have the support of all staff - i.e. having everyone on-side"* says Graeme *"We have similar set-ups across all our farms so the biggest variable we have is people."*

Graeme attributed a large percentage of their success to working with Investors in People NZ Ltd. The holder of the international standard "Investors in People" helps business improve performance by maximising its people. In New Zealand this framework has been well-used in large herd operations, but it is applicable for all farm business, no matter how small.

Cows grazing under centre pivot in Mid Canterbury

Following previous HR work done with QFENZ (Quality Farm Employers of New Zealand), Dairy Holdings began work with Investors In People NZ Ltd in 2008, to further develop structure for staff across the company's 70 farms. Dairy Holdings found the initial QFENZ work valuable and it demonstrated that the farms which were the best in the HR process were also the most productive units. The Investors in

People Agribusiness Standard is used to benchmark farm business, with 12 key standards to be met before a farm receives its accreditation.

The standards cover four categories:

- farm planning
- training and development
- managing people
- and compliance

A measure of the success of this HR work is that since 2000, career progression within Dairy Holdings has leapt ahead. One third of 50/50 sharemilkers have gone on to buy a farm, along with many lower order and 50/50 sharemilkers moving through the ranks.

The last question I asked Graeme before he had to jump into his car and head off to one of several farm meetings he attends weekly was: *"Is bigger better?"*

He responded:

> "*Only if high performance can be maintained across all farms. This is the target of Dairy Holdings: systems are focused on all farms operating at a high level, rather than a few farms performing exceptionally.*
>
> ***"The strategy must be simple, repeatable and robust; this applies both on farms and within information reporting.***
>
> *"A small business, with few staff and no growth is easy to manage at a high level.* ***A multiple farm business that continuously grows has a totally different challenge****."*

4d. Louis and Barbara Kuriger, Taranaki, New Zealand

One major aspect of wealth creation in dairy farming is doing the basics well, and keeping control of costs. While in New Zealand I caught up with Louis and Barbara Kuriger, who are among NZ's lowest cost producers. Louis and Barbara farm in coastal Taranaki which has a reliable climate for pastoral dairy farming. They have been farming for 30 years, progressing from variable order to 50/50 sharemilking and on to farm ownership with the first farm purchase in 1988.

They have two dairy farm properties in Taranaki, 68 and 168 hectares respectively. These are farmed under identical systems and their accounting model includes both farms into one set of accounts. Production from 635 Jersey and Jersey cross cows is around 200,000kgs of milk solids, from an all grass system feeding only hay and silage produced from surplus on the property. All young stock is grazed on farm. With allowance made for the area the young stock graze, the milking area produces around 1000kgs per ha of milk solids.

Louis informed me that their labour preference is to employ variable order sharemilkers. Currently their adult family is filling this role. Their son Craig is milking 200 cows and the remaining 435 are milked by their daughter Rachel and husband Kenneth. Louis and Barbara also have a son Tony farming in the South Island, while his partner Zoe is at university. Tony and Zoe plan to come back to Taranaki and join the farming business.

The Kuriger Farming Philosophy:

- Keep it Simple
- Keep it Enjoyable
- Keep it Profitable
- Keep it Sustainable

"Sustainable" means not only being environmental but also allowing people to follow a system that gives them a good work/life balance.

Louis' Success Drivers

1. He understands his system. His system relies on maximising pasture utilisation which requires regular feed budgeting and grazing plans.

2. His expenses are someone else's profit so he chooses wisely what he spends.

3. He tests and measures every product he uses to find the minimum amount necessary to produce required results.

4. He tries to keep his system in balance. He finds that cows are well balanced on pasture and pasture supplements. Adding in other feeds often requires counter-balancing which can be costly.

5. Never look in the milk vat to make farming decisions. The amount in the milk vat is the result of historical decisions. Planning forward is the only way to obtain the best utilisation.

Controlling costs

The figures used in this table are taken from Dairybase which is the DairyNZ benchmarking system. There were 421 farms in the group. Louis and Barbara Kuriger's costs are shown against the group average.

Category	Kuriger $/cow	Group Av.$/cow	See note below
Animal health	22	69	1
Breeding and herd testing	28	46	2
Shed expenses	7	22	3
Power & water	23	33	4
Phosphate fertiliser	83	193	5
Nitrogen fertilizer	0	26	6
R & M plant & equipment	20	32	7
Feed costs	0	250	8

1. Animal Health: Cows are vaccinated against leptospirosis; given magnesium to prevent milk fever; bloat oil for prevention; zinc to prevent facial eczema. Dry cow therapy is used on cows above 150 ISCC and Heifers above 120 ISCC. They use no CIDRs and don't do any inductions. No pour-ons or injectables are used – drenching is still the cheapest form. The Kuriger's record for no dead cows is 7 consecutive years!

2. Breeding for 5-6 weeks with Livestock Improvement Premier Sires. Bulls used for additional 6 weeks. They achieve a tight calving pattern of 8-12 days to mean calving.

3. Detergent is measured carefully. While liners are replaced annually, the droppers are well maintained to last longer. They service the milking plant themselves.

4. Power and water use: they aim to use water and power efficiently. Cooling water is used to fill the hot water heater saving power. Minimal water used for cleaning yards to reduce effluent.

5. Fertiliser: basic superphosphate is used with some addition of potassium - usually added at around 15%.

6. Nitrogen is only used in extreme circumstances and not as a regular tool. In the previous season they used it for the first time in 5 years due to an extremely cold winter. They used a total of 16kgs of N per hectare.

7. R&M: maintenance saves on repairs.

8. Feed costs: zero - not only saving on feed costs but also in labour time and machinery costs.

Overall the savings equate to $320,000 less than the average for the equivalent farm. This is a hell of a lot less than the biggest spenders!

$320,000 total divided by 650 cows wintered equals a massive $492 per cow!

Louis and Barbara's Golden Rules

- Have a plan - if you fail to plan, then you plan to fail.
- Measure & monitor everything, but most importantly pasture. If you can't measure it, you can't manage it.
- Never spend money with the sole aim of saving tax - if you don't need the product in your system, don't purchase it.
- They use "The 5 day rule" - when growth is exceeding demand and they can see 5 days of sufficient feed for the herd in front of them, they take a paddock out of the grazing block and put it aside for mowing?"
- In the spring time, never feed the cows more today than you can tomorrow.
- In the winter time, if the cows are still happy after three to four hours in the paddock then they have had enough to eat. This is a good check on your measuring.
- To run your farm at 90% of its potential production may be more profitable than attempting to get to 100% and spending more than 10% to get there.
- At certain times of the year they were prepared to feed their cows 1 or 2 kilograms of dry matter less for a short period of time to gain 2 extra days in the round.
- They concentrate on cow health rather than condition score. They don't have skinny cows but neither do they peak at 5 or 5.5 NZ condition score. Healthy cows will put on weight on as soon as dried off or when more food becomes available. Louis commented *"People come in different shapes and sizes too and we produce better in a healthy range!"*
- Contractors are normally used for development. They spread their own fertiliser and do most of their own harvesting. They sow their own turnips which are used for a summer crop, the main focus of this being to develop rough parts of the farm.
- Bells and whistles cost money!
- The easiest option may not be the cheapest option.

I consider myself very fortunate to have spent the day with the Kurigers. Their grasp of the low cost system is unrivalled by anything else I've seen on my travels.

Their enthusiasm for what they were doing was overwhelming and this got me thinking about our own system and what I'd seen and learned off them. What applications from their simple low cost system could we implement?

One important factor to consider is that the Kurigers' farm grows 15 tons DM grass per ha, with no nitrogen and a very even grass growth curve and good winter growth, thus enabling them to winter the cows on grass in winter. This is a

huge cost saving compared with the South Island of New Zealand or the UK where winter grass growth is minimal. However the Kuriger family have identified this and have done a fantastic job over the years of exploiting the situation to their advantage. This is a very good example of maximising your farm to the climatic resources.

As I departed back to my family and the camper van, Louis' final words were:

> "*The hardest thing to change on a farm is the mindset of the farmer! Cows adapt! Pastures adapt! To flourish in turbulent times the farmer needs to be adaptable!"*

6. Findings and Recommendations

6a. People and Management Skills

How can you get the best from yourself and others?

Answer: Develop your "People management skills." One person referred to people skills as the "soft skills" Some people have natural people skills, while others sadly have not.

A proportion of farm staff have excellent technical skills, but shocking people skills.

The effect can be devastating on a business.

People management skills include the following:

- Listening with intent to understand.
- Asking insightful questions.
- Being motivating and inspiring.
- Handling conflict situations.
- Showing a degree of trust.

These qualities inspire a productive atmosphere.

6a (i) Listening with intent to understand

Most people don't really listen: when they listen they are really just waiting their turn to speak. They are not absorbing the other's message: they are mentally preparing their response. Good people skills mean that you listen with intent to understand. That means listening and NOT interrupting, not drifting off, but paying full attention to the other's message.

Conclusion 1: Listen more often, with intent to understand.

6a (ii) Asking insightful questions

Listening will not be enough on its own. Good listening will inspire questions about what the other person has said. In order to understand you must become a good questioner. Questions can be used in two ways:

1. As a means to gather more information
2. As a means of gentle persuasion.

Conclusion 2: To persuade and to gather more information, develop your questioning skills.

continued overleaf

6a (iii) Be motivating and inspiring

Nobody likes a grump. Nobody wants to work with a person who is pessimistic, cynical and down. Good people skills involve resisting the temptation to submit to the bad news. Good people skills includes keeping the mood strong in spite of gloom.

Conclusion 3: Train yourself to talk convincingly about WHY the future will be better than the present.

6a (iv) Handling Conflict situations

Handling conflict situations is a delicate and important people management skill to master.

The skill breaks down to three basic abilities:

1. The ability to criticise the other's behaviour without criticising and attacking the character of the person.
2. The ability to suggest ways out of the conflict that are both possible and acceptable to the other.
3. The ability to control your language, when you are in a bad mood (not to say too much!)

Conclusion 4: By applying the three laws stated above, train yourself to give constructive criticism.

6a (v) Showing a degree of trust

Trust is the basis of our economy. If you don't trust the other then you cannot do business with him or her. Demonstration of trust is therefore a major compliment. Demonstration of a lack of trust is a major de-motivator and an insult.

Good people skills involve trusting others to the maximum that is justifiable given two things:

1. Track record
2. The value of the task being entrusted

The people management skill is to give as much trust as you can to others (allowing you to delegate lower value work and get on with higher value work)

Conclusion 5: as much as is justifiable, trust others

6a (vi) Inspiring a productive atmosphere

This is the sum total of all the other five skills. If you can do all the other five, then you can and will inspire a productive effort from those around you.

Conclusion 6: Work harder on changing yourself, than you do trying to change others

"*Cows are easy: people are not"* is a phrase I heard several times on my travels. If we are to succeed in our quest for Wealth Creation in Dairy Farming then in my view we have to become excellent in all of the key points illustrated in pages 28 and 29. More and more as I continued with my study, it became apparent that it was the people that made things successful and not the farms or the cows.

One key area is choosing the right people in the beginning.

The two main things to look for in people in my view are AMBITION and ATTITUDE.

AMBITION

Ambition is crucial if you want people who will understand your goals and ambitions.

Ambition is energy and determination rolled into one. People are either born with ambition or not. It's virtually impossible to instil it into someone later in life.

ATTITUDE

Attitude towards other people is critical. Positive attitudes are contagious. But in the workplace one bad (negative) apple in a team is all it takes to stunt your business.

"A man without a smiling face must not open a shop" - Chinese proverb.

When interviewing potential employees and deciding if a person is right for the position, I would sacrifice a degree of work ethic, if he/she has the above mentioned attributes.

That is how highly I value Ambition and Attitude. It is a mistake to employ the wrong people; it is an even greater mistake not to get rid of them ASAP.

On my travels I met a lot of successful, very driven and ambitious people, In New Zealand especially. I have no doubt that we in the UK farming industry have a large pool of people of the same calibre. The big difference is the system; in New Zealand for example the system is very straightforward. If you have drive and ambition, the career ladder is there for you to follow all the way to potential farm ownership. This is where we fall behind in the UK. We **must** attract well educated youngsters into farming, targeting the higher educated and having a system to keep them moving forward in their career.

I think in the past farming has been the easy option for a large percentage of people; a fall back, a straightforward choice between stacking shelves in the local supermarket, or work on a farm. I consider these people as blockers in the system & strangling the industry. The system in New Zealand does not allow this to happen, it turns around like one big wheel; the young ones jump on, the successful ones stay on and jump off at the end, and the ones that fail simply fall off!

My main aim is to create a system similar to New Zealand's, a sharemilking or contract milking system - similar to Dairy Holdings' - in our own business and demonstrate to other farmers how successful it can be, and how it can create opportunities for people in the UK. This would promote wealth creation for us and for others. American motivational author Zig Ziglar says **- *"***You can have whatever you want if you help enough others to get what they want".*

5b. Creating and Evaluating Opportunities

Be very clear of the outcomes you want in life and in business. This gives you the framework to do your evaluation. Clarity allows you to make quality decisions and see opportunity where others do not. It helps you not to take the wrong opportunities.

When choosing one opportunity you are also choosing not to take another - the world is full of opportunity!

Key questions to evaluate opportunities are:

"Will it lower my cost of production? Increase my profits? Create more time? Create more opportunities in the future?

Will it expose me to things outside my control that equal risk?

When looking for other farms: - size and proximity to your current business are very important. The scale is needed as it will take up time and you need a return on that - same is true on travel time.

Before you are able to take your business or your staff to a new level, you need to be able to lead yourself. This means modelling for your staff and your family, a life that is desirable for them to pursue (otherwise why would they follow you). None of us is effective at our jobs working 16 hour days, six days of the week. We need to allow the creative side of our brain an opportunity to speak and this only comes when we are not heavily involved in routine process work. Activities such as exercise, networking, reading, and personal development are very important. Those who are able to create opportunity continually invest in their own leadership development.

Becoming an opportunity maker means a constant focus on the future and a willingness to invest the time in planning that does not make sense when you consider only the short term payback. In order to create the time and space for this to occur, opportunity makers need to develop new habits that support the strategic direction of the business. This can be very scary; however the payback, which I witnessed on my travels, is well worth it!

5c. Once a day milking : the low cost future farming system

Once a day milking, for the whole season (full season OAD) is the one current "innovation" that offers the potential of lower cost of production, without extra inputs, and provided that reasonable yields per cow can be maintained.

It eliminates one whole milking operation per day, along with all the labour and cow walking involved, thereby continuing the steady increase in milking efficiencies of the past 100 years.

Full season OAD milking can be seen as a way to mitigate the main constraints imposed by twice a day (TAD) on large grazing systems.

Constraints of TAD include:

- The huge workload required by TAD; it's inconvenient, inflexible scheduling; and the capital cost of the large milking facilities needed.

- The limitation imposed on daily feed intake per cow by grazing, even when pasture supply is plentiful, and magnified during pasture deficits; and thin cows.

- The necessity for cows to walk long distances every day.

Advantages of full season OAD:

- Less strain and stress on cows and people
- Improved fertility; more compact calving; fewer empty cows.
- Fewer lame cows
- Lower replacement rates/or more voluntary culling
- More dairy stock to be sold.
- Cows maintain a better cow condition score throughout the lactation, (although this advantage decreases as yield/cow on OAD increases with selection and culling).
- More cows can be milked per person, and per set of cups; potential for reduced capital costs.
- Milking cows can be grazed on more distant areas, or on hilly areas.

I see huge potential in the UK for OAD, especially as a useful tool to any farmer wishing to grow wealth in low cost grass based dairying. It allows you to milk more cows for less capital outlay, milk cows on less favourable, cheaper land plus it gives much more flexibility with decisions.

6. Conclusions

On my return from the various countries I visited, it became more and more apparent to me that the UK is a fantastic place in which to produce low cost milk. We can actually grow grass as well, if not better than, any other country in the world. The opportunities in the UK at present are limitless and will be so, in my view, for the foreseeable future.

The most important aspect of growing a dairy farm business is without doubt people.

The success of farm business growth will depend wholly on being able to match these opportunities with the right people. We are also very fortunate to be producing milk in an unrestricted environment, unlike Ireland where milk quota and the threat of super levy is a constant problem.

Set up cost for new dairy units, especially if once a day milking is employed, is fairly moderate, and cows bred to grazing systems are easily obtained (different story to ten years ago were it was virtually impossible to find cows suited to grazing systems).

When we started in 2004 all stock came from Denmark.

Being a low cost producer in an industry very dominated by high cost farms, is also to our advantage. Creating a robust business keeping costs to a minimum will make you a lot less exposed to volatility in the markets going forward. The low cost pasture based dairy producers in the UK are getting better at this discipline. Interestingly a percentage of producers in New Zealand are taking their eye off the ball and adopting European and American techniques and creating high cost systems in a country renowned for its low cost production.

An important aspect and the success of acquiring multiple dairy farms in different locations in different countries is adapting your system to the location and climate, and not being too rigid in thinking one size fits all.

7. Postscript

I have thoroughly enjoyed these past 18 months; the honour of becoming a Nuffield/Trehane scholar, the privilege of travelling the world interacting with truly amazing people, and being able to take time out to accomplish all of this has given me a completely different outlook on life.

Having the time away from the business gave me time to think, and had me thinking about things that I did not realise were an issue until I was away. We had a system, milking a large number of cows on one farm, performing averagely, and needing a high management input and we were working cows, plus people too hard.

This did not hit home until I was standing listening to Dr Gordie Jones informing me how important it is to look after the cow. A few weeks later I was having a conversation with Niall Murphy (an Irishman sharemilking in Missouri for Grasslands LLC) about once a day milking, the pros and cons of it and how he was contemplating the strategic use of it in the harsh conditions of Missouri.

A few weeks later I arrived home, and after a few days back on the farm it was crystal clear, OAD milking was a no brainer for us. We've implemented OAD milking from the start of calving this year, and the system is working well. Cows are healthier and in better condition and the same goes for the people involved as well.

Would this change have been made if I hadn't been successful in gaining a Nuffield Scholarship? Yes, probably in a few years' time. What my Nuffield Scholarship enabled me to gain, was a broader outlook on things, pushing the more comfortable rigid thinking to one side, and actually seeing things a lot more clearly, more quickly.

"By associating with wise people you become wise yourself"

Rhys Williams

Home Farm
Cefnamwlch
Tudweiliog
Pwllheli
Gwynedd
LL53 8AX

07789865958
01758770201
rhyswilliams123@hotmail.com

8. Acknowledgments

I would like to take this opportunity to thank everybody who gave up their valuable time for me during my travels.

USA
Dr Gordie Jones, Wisconsin.
Tim Richter, Iowa.
Bart Ruth, Nebraska.
Niall Murphy, Missouri.
Gary Nolan, Missouri.
Jock Fulton, Missouri.
Jeff Hays, Missouri.
Stacey Hamilton, Missouri.
Joe Horner, Missouri.
Tony Rickard, Missouri.

Ireland
Kevin Commins
Kevin Twomey
Pat Ryan
Adrian Van Bysterveldt
Michael Murphy
Shane Maxwell

Chile
Zachary Ward
Louis Barria S.

Uruguay
Brent Boyce

New Zealand
Graeme Blair
Brett Walter
Dave Turner
Leonie & Kieran Guiney
Bronwyn & Kevin Knight
Vaughan Templeton
Daniel & Emily Woolsey
Richard Blackmore
Maurice Good
Terry Carr
Matt Harrington
Desiree Reid
Alvin Reed
Lincoln University Dairy Farm
Leo Donkers
Alistair & Sharon Rayne
Lynaire Ryan
John & Sarah Franklin
Ian Elliot

Arthur Bryan
Jim van der Poel
Olin Greenan
Neil Bateup
Mark Townsend
Gary Townsend
Jo Deutz Ebeling
Louis & Barbara Kuriger
Tony Fleming
Alan & Beth Crafer

France

John Bailey
Erwan & Laurence Le Roux
Ghislain Mainard
Jannick Billy
Pascal Le Coeur
Thimoleon et Julie Resnau