



A Nuffield Farming Scholarships Trust

Report

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**Planning for the future of
the family dairy farm**

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NUFFIELD UK



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Disclaimer

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



1. Executive Summary

I am a fourth generation dairy farmer, farming on the most southerly tip of Devon. I left school at 16, foolishly believing I had had enough education as I had only ever wanted to be a farmer. I am married to Sue and have a daughter Bex and son Tom.

For a number of years our farm consultant had been trying to persuade me to apply for a Nuffield Scholarship; being a Scholar himself he knew the benefits that would be gained both personally and for our business. I had always felt that I would not have the ability to undertake this challenge. However at the age of 45 my mid life crisis kicked in and I made myself rise to the occasion.

The topic I have chosen to study is very relevant to my personal situation. Farming in partnership with my father as a multi generation business, I know only too well the major issues concerning succession and the transition to the next generation. The business has to have growth to remain sustainable. The older generation needs to acknowledge the younger generation's ideas; similarly the younger generation needs to realise the value of traditional ways - after all these are the foundations on which the current business was built. It is all about compromise, and if this is not appreciated close personal relationships will suffer.

My study tour included visits to countries that had a high number of family farms, and focussed on dairy farms. As part of an eight week tour I visited the USA, New Zealand and Australia. I also went to The Netherlands and Brussels, and to Belgium where I attended meetings held at the European Parliament Buildings and the offices of Cope-Cogeca.

My first stop was the USA and the State of Wisconsin where I attended the World Dairy Expo which lived up to my expectations in

being typically American in size and glamour, showcasing some outstanding cattle and innovative industry related kit. The following few days I joined in with an ABS tour of dairy farms in the area – these were typically large intensive units with cows housed all year round. My preconceptions of large US dairy units were unfounded – the animal welfare and management were exceptional, with protocols in place to cover all situations.

The rest of my time in the USA was spent with Professor John Baker, a US attorney from the State of Iowa University who specialises in “Family Farm Transition”. We visited a number of family farms that John had advised on succession planning.

From the State of Iowa I flew to San Francisco to attend the “International Farm Transition Network Annual Meeting and Conference” in Modesto, California. Subjects discussed ranged from: getting young people into agriculture, the farm transition process, and - under the umbrella of business entities - Sole proprietors, Partnerships, and Limited Liability Companies.

Moving on to New Zealand, travelling around both North and South Island, I again visited numerous dairy farms. The fundamental difference that I found between farmers in the UK and New Zealand was the attitude to traditional and sentimentality – in New Zealand, farming is seen as a business as opposed to a “way of life” – there are more opportunities for new entrants and farmers are prepared to take more risks financially and hold the opinion that if things go wrong, you sell up and move on, whereas here in the UK sentiment demands that the family “crown jewels” should not be put at risk. Succession and the next generation was not high priority



for the majority of those I met; it was a case of wanting their heirs to experience the same level of excitement as they had in building the business up. Levels of debt appeared to be much higher and the banks were found to be very supportive and more relaxed in their lending.

Taking the hop across the big pond to Australia I was struck by the vast scale and diversity of the country. Travelling through Victoria I met some very good operators who were keen to share their stories with me and were very open about their succession experiences and plans. The Aussie sense of tradition was very like ours and there were a number of multigenerational and sibling partnerships working successfully, albeit the enterprises were large enough to sustain the family members.

The future of the family farm is strong throughout all the countries I visited and those of us who are currently caretaking the land and producing food for the world need to ensure that we build and grow our businesses so that they are sustainable for our successors. We need to keep our industry efficient and respected in order to encourage the younger generation to follow in our footsteps, enabling them to attain a lifestyle that rewards the risks and all the hard effort. As we as producers are unable to determine our end price, we must endeavour to control our costs, utilising the economies of scale to optimise margins.

In my opinion, good communication, passion, ambition, compromise and strategic planning are the fundamentals needed to ensure the continued success of the family farm.

“To Stand Still Is Not an Option”



Photo of me, Phil Darke



4 Personal Introduction

When I came home to the family farm in the 1980s, we were farming 250 acres and milking 100 cows. Over the subsequent years the business steadily grew and in the past ten years my father and I have been fortunate enough to further increase our land base to 1100 acres through a mix of purchased and tenanted land and are currently milking 520 cows. My role within the business has developed from junior partner, to slightly more senior junior partner in recent years, and my 19 year old son Tom is now snapping at my heels, bringing back memories of how I was at his age.

I was introduced to Nuffield through a Scholar who told me four to five years ago that I should apply; at the time it went in one ear and out the other. On reading several agricultural-related publications in 2010 advertising Nuffield, I felt I should apply, at 45 years old telling myself “if I do not do it now I never will”. The driving force behind my midlife crisis was my desire to challenge myself and to study a topic relevant not only to myself and my business, but also to the wider industry audience. In the words of my wife, “It would have been easier if you had just bought a motorbike!”

As a multi generation business I know only too well the major issues concerning succession and the handing over of the business to the next generation. My great-great grandfather was a coachman/carpenter in North Devon. His son, my great grandfather, took the tenancy of a farm in Mid Devon, moving to South Devon with his wife, two daughters and three sons in the 1920s. Back then there were

more opportunities to acquire land, not so much to buy, but through tenancies, there being many large family estates keen to take on new tenants. The family was fortunate to take on three neighbouring farms, including South Huish, our current home farm. My great grandfather farmed at South Huish, with my great uncle and my grandfather farming independently on the neighbouring farms. My great grandfather retired in 1951 when the estate offered the tenancy of South Huish to my grandfather – this he accepted and relinquished the tenancy on his previous farm. In 1972, the landlord offered my grandfather the opportunity to purchase the farm, but due to his memories of the great depression in the 1930s, he did not wish to encumber himself with a large debt; however my father did not want to miss the opportunity of ownership and so he bought the farm, the mortgage being serviced by the partnership.

As a business we have always looked at any opportunity that has come our way allowing us to expand. With increasing pressure from the market place the economies of scale we now have in place have helped us through a very difficult situation both financially and mentally. The demise of our milk buyer and the loss of 6 weeks of milk sales in January 2012 has been a particular low point but, thanks to the support of our bank, we are still positive about our future in dairy farming.

It is my personal goal to continue to manage, create wealth, and grow a business that we as a family are proud of and is sustainable for future generations.

“Tomorrow will happen because of today”



5. Background to my study :

Planning for the future of the family dairy farm

How can we make the future of family farms sustainable? With an ever growing, ever ageing population, more family farms will have to be large enough to support possibly up to three generations. This will bring with it negatives as well as positives, compromise will be paramount with no doubt old and new ideas clashing ; neither should be dismissed as the past has built the foundations of the future business.

The term ‘succession’ is generally used in the narrowest sense of asset transfer between generations with little attention paid to management succession in the case of a (family) farm business. Succession is an extremely emotive word and I am keen to discover how farmers from other parts of the world handle this delicate situation.

With agriculture and food processing contributing approximately 15% of GDP in the UK, the ageing agricultural population is of concern; not only in terms of food production but also in industry leadership. The majority of agricultural leaders are derived from a practical farmer base which has an estimated average age of 56 years.

The Foresight report predicts a 9.0 billion world population by circa 2030. The challenge we as farmers face is: how are we going to feed the ever growing population? More from less, we are told – is this viable? With the increase in population comes increased urbanisation at the cost of prime food producing land. More people use more water and energy thus increasing the value of these commodities and, in turn, food production costs.

For well-structured businesses the future looks promising. But we as a generation of farmers need to put in place the framework for the next generation to grasp these opportunities, through strategic planning for the succession of our agricultural businesses.

Agriculture and farmers will be respected, farming will become sexy again, and our heirs will earn a living comparable with their contemporaries.

The aim of my study is to investigate how farmers around the world are expanding their businesses and managing the transfer to successors to ensure the family farm continues to be sustainable.

“The future is bright : we must grasp it.”



4. Overview of my study journey

During my study tour I visited the following countries:

- **Contemporary Scholars Conference, London and New Zealand - March 2011**
- **Netherlands - June 2011**
- **Brussels - July 2011**
- **USA - October 2011**
- **New Zealand – October 2011**
- **Australia – November 2011**

Full details are given in the following sub chapters:

- 4a. Contemporary Scholars' Conference London/New Zealand, March 2011
- 4b. Netherlands, June 2011
- 4c. Brussels, July 2011
- 4d. USA, October 2011
- 4e. New Zealand, October 2011
- 4f. Australia, November 2011



4a. Contemporary Scholars Conference London/New Zealand - March 2011

My Nuffield journey started with the Contemporary Scholars Conference and Briefing, based firstly in Whitehall, London, where it soon became apparent to me how influential Nuffield is to major stakeholders involved in UK agriculture.

We had our first meeting in the House of Lords with Baroness Hazel Byford, opposition agricultural spokesperson 1997-2007, and Professor Ian Crute, Chief Scientist (AHDB) Agriculture and Horticulture Development Board, who gave us a snap shot of the recently published Foresight report. The impact of the report was to move food and food security towards the top of the political agenda. With an increase in world population to 9 billion people, he labelled the situation as the “perfect storm” with greater demand for energy, food and water as a consequence of a growing population and improving living conditions and standards.

Other notable presentations included those from Terry Jones, Head of NFU London office; Katrina Williams Head of Food and Farming; (DEFRA) Department of Environment Fisheries and Food; Michael Jack past Chairman, Parliamentary Environment, Food and Rural Affairs Committee (EFRA); Allan Wilkinson, Head of Agriculture, HSBC; and Brendan Bayley, HM Treasury Agriculture section. Meeting these industry professionals certainly whetted my appetite for the whole new Nuffield experience.

The next surreal moment was changing from our business suits down into more casual attire in one of the Farmers Club meeting rooms - we were flying out to New Zealand! Here I was, a 45 year old who left school at 16, worked away for 12 months, came home and had not travelled apart from annual

family holidays, setting off to New Zealand with a group of people that I had only just met three days previously.

We flew into Auckland and then on to Wellington for the Contemporary Scholars Conference. It soon became clear that as a Nuffield Scholar you have to think on your feet, as each of the 50 or so Scholars from around the World had to give a brief personal introduction and outline their chosen study topic.

The Conference really opened my mind to Global Agricultural issues and reinforced the fact that we farm to produce food, the end price of which is controlled in the world market place, not just by UK supermarkets or consumers.

There were some truly inspirational people at the Conference and I was suitably humbled by the strength and determination shown by, in particular, Mark Inglis and Rob Cook.

Mark Inglis is a mountaineer who had both his legs amputated after suffering frostbite from being trapped on a mountain for 13 days – 24 years later he became the first double amputee to reach the summit of Mt Everest. **“Don’t take no for an answer – strive for what you wish to achieve – believe in yourself”**

Rob Cook is a 2011 Australian Scholar who was paralysed from the neck down due to a helicopter accident whilst mustering cattle in the Northern Territory in 2008. Despite being confined to a wheel chair for the rest of his life, he is determined to remain a productive member of the Australian beef industry. **“I would rather attempt something great and fail, than to do nothing at all and succeed”**

The whole of the Conference was a great experience, both for meeting other likeminded people and also to network for arranging future visits as part of my own travels.



4b. The Netherlands

My independent Nuffield travels started with a visit to the Netherlands. This was kindly arranged by Jan Bann (Dutch Nuffield Scholar), who is employed by For Farmers, a Dutch feed compounder that has recently acquired BOCM Pauls - he is the manager for all pig and poultry feeds in the Netherlands, and responsible for sales of 1.0 million tonnes of feed annually. I travelled to a For Farmers feed mill in the east of Holland which was very close to the German border, where I was met

by a feed advisor who gave a brief introduction to the business. Their current turnover is 3.0 billion Euros; all the feed production mills are situated beside canals allowing for all raw materials to be carried by barge from Rotterdam, each barge carrying loads in excess of 9000 tonnes. The majority of the feed is compounded, and from the time the lorry enters the feed mill it is loaded within 8 minutes.

Whilst in the Netherlands I visited 4 dairy farms, all running very similarly structured operations:

1. Jan Dalenourn – Leppeweg, Enschede
2. Ruud Michorius – Oupe Boekeloseweg, Haaksbergen
3. Joost Onland – Klaashuisstraat, Haaksbergen
4. Johan Roering – Hoge boekelneg, Enschede

Case Study 1 : Jan Dalenourn – Leppeweg, Enschede

This is a one man operation milking 120 cows with 2 robots on 54 hectares. The cows are housed all year round, on sand bedded cubicles with slatted floor yards which are scraped by a robotic scraper. Jan's father died early leaving him to take on the business at a very young age. Other than his wife helping with administration, Jan farms the unit solo. In addition to milking, Jan breeds both cows and bulls for sale as breeding stock, and show at top agricultural shows.

Key Points:

- High level of automation.
- Unlikely to expand due to high cost of land to buy and unavailability of land to rent.



Case Study 2 : Ruud Michorius – Oupe Boekeloseweg, Haaksbergen

Ruud is a young, ambitious dairy farmer, milking 95 cows in a 12/12 Herringbone parlour. Cows housed all year in a plastic sheeted poly tunnel type building. Ruud had taken on the business from his father in his early 30s and was very commercially minded, taking time to negotiate best possible terms with suppliers – he was very conscious of his cost per litre produced per man, which he monitored by benchmarking.

Key Points:

- “No frills” unit – low capital expenditure with older traditional farm buildings.
- Looking to expand to 120 cows.

Case Study 3 : Joost Onland – Klaashuisstraat, Haaksbergen

Joost is milking 165 cows through a 26 point Dairymaster swing over with EIF, heat detectors and auto separation; a one man operation with relief milking 1 day per week. This is a relatively new unit, with a very spacious airy building, part cubicle and part straw yard.

Key Points:

- Looking to replace grass silage with corn silage as considers quality to be more constant; however government regulations state that 70% of each farm must be grass.
- Planning to expand cow numbers to 200 post 2015, when milk quotas are due to be abolished.

Case Study 4 : Johan Roering – Hogeboekelneg, Enschede

Johan, again a sole operator, is milking 100 cows through a traditional 10/10 herringbone parlour. Johan’s operation differed from my previous farms in that his cows grazed grass. He has invested heavily in the past, installing a robot feed system at a cost of 120K Euros.

Key Points:

- Importance of work life balance with wife and two children.
- High level of borrowings.
- Hope to borrow more money for the installation of 2 robotic milkers in 2 years’ time.



Observations on Dairying in the Netherlands

- Relatively young enthusiastic farmers, who were keen to make their businesses work for them, rather than the other way around.
- Technologically advanced, limited skilled outside labour used, high levels of automation, facilitating improved cow management.
- Small family farms, with little opportunities for expansion through more land acquisitions either purchasing or tenancies.
- Slurry was a big issue with all farms visited; the Dutch government has restricted the amount that can be spread on the land. Dutch farmers have to have at least 70% of the farm in grassland as this will allow better uptake of slurry. Most farmers produce more slurry than is allowed to be spread on their own holdings. Surplus slurry is transported away costing 15/20euros per cubic meter. For a farmer with about 100 cows and 40 hectare: 1000 m³ x 15 euro = €15.000/year. The disposal of this waste is affecting productivity.
- Heavily reliant on imported feed stuff
- High levels of debt, which can be attributed to the high levels of automation seen on the farms I visited.
- The Netherlands has a small land mass which is presently being farmed intensively. Farmers interviewed indicated their aspirations to expand after the abolition of milk quotas in 2015.

Netherlands - Issues relative to my study

Land is very expensive (60,000 Euros/HA equating to £19,500/acre @ 1 Euro = £0.80) and does not become available very often. To rent it would be 600 Euros/ Ha (£194/acre). The other constraint holding back expansion plans was milk quota; in Holland unlike the UK the national milk quota is being exceeded. In the past a lot of quota has been traded, at the time of my visit quota was in short supply. Families and tradition were equally important.

See photo on next page – Automated feed system in Holland



Automated feed system in Holland



4c. Brussels

July 2011. My next stop was Brussels, attending meetings at the European Parliament and COPA-COGECA in the company of fellow Scholars - here I increased my knowledge of

the European Union (EU) and the workings of the CAP. Subjects discussed included Pillar 1 direct support payments to farmers, and Pillar2 agri-environmental payments.

Issues within the CAP reform relative to my study

Two thirds of farmers within the EU are over 55. In order to support job creation and encourage the younger generation to enter the agricultural sector, the Commission is proposing to create new start-up assistance accessible to farmers under 40 during the first five years of their farming business.

It has been proposed that the Single Farm Payment Scheme (SPS) as we know it be replaced by the Basic Payment Scheme (BPS).

In order to enhance the EU's agricultural potential, the Commission is proposing to support farmers' income in a fairer, simpler and more targeted manner. It will reduce payments by 20% for those currently in excess of EUR 150-200,000, by 40% for those in excess of EUR 200-250,000, by 70% for those in excess of EUR 2250-300,000 and, finally, for those exceeding EUR 300,000, by 100%. It will also take account of the number of employees created by holdings. It will be more fairly distributed among farmers, regions and Member States.

Under the current rules a single SPS applicant has to be a farmer with eligible land on a holding within the EU and engaged in an agricultural activity. To be eligible to claim under the new scheme, the farmer will need to be active, and have made a claim under the SPS in 2011. It is suggested that if a business changes status or even just its name, this could jeopardise its ability to make a claim under the new BPS. This clause is particularly relevant to my study as often the legal entity of the farming business is changed during the process of succession planning e.g. changing from a sole trader to a partnership, from a partnership to a limited liability company, a merger of two businesses or the split of a business into more than one business.

Under the Pillar 2 umbrella are payments for greening and environmental schemes - with a world population targeted at 9.0 billion people by 2030, why are we as farmers being financially rewarded and encouraged to take further land, in addition to that already included in existing schemes, out of production?

Away from the CAP, but relative to Europe, and certainly to us in the UK, is the abolition of milk quotas in 2015. This in my opinion will bring massive change to the whole dynamics of the dairy industry; countries with an efficient dairy industry that are currently meeting their national quota level will, I feel certain, turn on the tap to increase production. The dairy market is going to become increasingly volatile. We must take control of our businesses in terms of milk production efficiency.



4d. USA : Wisconsin & Iowa

My flight to Chicago with British Airways was a real high point for me in the past year, settling down for a meal on board and being served coffee with a Dairystix milk portion. This is great, I thought, not only am I setting off on the journey of a lifetime but I am also being served my own milk in a Dairystix! The low point came in January of this year, when our milk buyer, the producer of Dairystix went into administration!

Attending the World Dairy Expo on October 4th in Madison, Wisconsin, certainly lived up to my expectations, so typically American, big, glitzy and showcasing some exceptional cattle. I spent time looking at the various different pieces of equipment, from vacuum muck scraper tankers, to 50 cubic meter self-propelled mixer wagons. These are absolutely amazing pieces of kit, if that's what rocks your boat –it doesn't mine!

WISCONSIN, better known as the "Dairy State" (also known as the Badger State, although they looked like skunks to me!) has an impressive number of dairy farms – over 12,800 with an average herd size of just 98! Here I joined in with a two day ABS International tour of dairy farms - we visited several different units, all family run, generally employing cheap Hispanic labour who were being paid £6/hour equivalent. All the herds we visited were housed all year round – my preconception of poor welfare standards was unfounded. The cows were well cared for, with herd health being paramount. Strict written protocols were in place for any eventuality e.g. calving, mastitis, lameness, so that all staff members were aware of treatments required. With labour being so cheap, and therefore plentiful, you can argue that there should not be any welfare issues.

Case Studies in Wisconsin:

5. Ripps Dairy Valley- Dane County, WI

6. Cattail Dairy Farms – Mauston/Wonewoc, WI

7. Kinnard farm, Inc – Casco, WI

Case Study 5 : Ripps Dairy Valley- Dane County, WI

Eileen Ripp, and sons Chuck, Gary and Troy, manage 900 cows, on the part owned, part rented, 1500 acres. As with the majority of large herds in North America the dairy cows are housed all year round. Along with the family labour, ten fulltime milkers were employed. The dairy herd had expanded significantly over the past years; the business

Key Points:

- Sand bedded freestall barns, fans and sprinkler systems to help keep cows cool.
- Sand separator used for the reuse of sand for bedding.
- Double sixteen parallel milking parlour for



goal for the future is to build a high genetic and high yielding herd of cows with the current average herd yield 14,769kgs/cow. Together with other local dairy farms a methane digester has been installed. This community digester project, part funded by Dane County to the tune of \$3.3 million, will provide enough electricity for 2,500 Dane County homes and also create employment opportunities.

the main herd, smaller single eight parallel for all fresh calvers.

- (BST) Bovine somatotropin given to dairy cows to increase their milk production by potentially 15-20 %. Oxytocin injection for all new calvers to help let milk down and cleanse.
- Dry cows in cubicles, only taken out to calving pen when water bag is showing, calving jack used as last resort (encourage the cows to calve on their own.)
- Calves taken immediately away (Johnes can be a problem, but they seem to be eradicating it by this management process).
- All calves are tubed with pasteurised colostrum for their first feed.

Case Study 6. Cattail Dairy Farms – Mauston/Wonewoc, WI

The home farm in Mauston was purchased in 1954 by William and Mary Holig – they milked 27 cows in a stanchion barn until 1958 when a milking parlour was built. Bob, their son, took over the farm in 1979 and he was joined by his wife Joan in 1982 when they expanded the herd to 110 Holstein cows. In addition, an existing barn was remodelled in 2006 to accommodate 50 Jerseys. In 2009 a second facility in Wonewoc was purchased and the business is now milking 275 cows and rearing approximately 300 head of young stock, on a total of just over 1000 acres.

Over the years Cattail Dairy has changed a lot but continues to be a true family farm with all of Bob and Jean's children and their partners

Key Points:

- 3 generations working on this farm: grandparents, daughter and son in-law, grandchildren and granddaughter's fiancé.
- Although only milking twice daily it was taking them 7 hours to milk each milking – parlour 8 a side rapid exit.
- Pasteurised milk fed to calves
- Vet also advises on nutrition, running feed samples weekly for moisture content.
- By-products being used as cheap feed e.g. waste from local sweet corn canning factory.



directly involved in operations.

I spoke to the son in-law about family farms in the area; a lot were going out of business due to being financially unviable because of their 70-cow herd average size. Larger units are expanding to fill the gap left by those quitting the industry. The Holligs were fortunate enough to purchase this farm 2 years ago.

Case Study 7. Kinnard farm, Inc – Casco, WI

Rob Mildred and Lee Kinnard (not related) manage this unit of 2400 cows on 5000 acres of owned land. Work force consists of 3 Herd Managers and 1 Feed Manager with 30 additional full time staff members handling the dairy operation and up to an additional 30 part timers brought in to cover all cropping/manure hauling operations.

Plans are to expand to a 6000-cow facility on an alternative site, utilising cross ventilated barns and sand bedding, with manure being spread through a network of permanently installed pipelines. All young stock (3000 approximately) are to be reared on a dry lot in Colorado owned and operated by the company. They are investigating direct marketing of their products to the consumer.

Key Points:

- Calving date written on side of cow, along with a mark showing her temperature. Temperature taken daily for 4 days.
- Outside contractors are used for tail chalking and AI on a daily basis.
- Sand pen for cows not good on feet, heated water tank used for rehabilitation of cows off their feet (works really well)
- Farm currently used a 2 feeder system to prepare and deliver balanced rations to animals once a day
- The feed manager trains and evaluates all members working on the feed team to ensure consistency.
- Herd manager routinely tests both blood and urine of animals to ensure that the feeding programme is working as desired.
- Cows milked 3 times a day through a double 36 parallel parlour, which was running for 23.5 hours in every 24
- Extensive operating procedures (see calving protocol in Appendix on page 32.



Observations on Wisconsin Dairying

- High stocking (overstocking?) - 125% in cubicles.
- High use of antibiotics
- Cheap labour
- Cheap by product feed availability
- Cheap fuel
- Milk price 28ppl equivalent
- Farmers well respected by others
- State funded projects to encourage young farmers into agriculture
- Tail docking of cows common
- Place high importance on high genetic gains
- Good partnerships with communities i.e. investment in renewable energy.
- Attention to detail regarding cow health and welfare
- Employed workers follow the strict written protocols for the management and welfare of cattle.



Dairying in Wisconsin



IOWA

Flying over the State of Iowa to Des Moines I was amazed at the patchwork of fields and roads below me, the roads running dead north-south and east-west. When these roads were laid years ago it was without the benefit of technology. These guys were skilled operators, a skill that is going to be lost through the innovation of kit fitted with GPS, auto steer etc.

John Baker from the State of Iowa University was my host for the next few days. John

looked after me so well and fed me with so much information that I went into overload. He is a quick witted lawyer, who specialises in family farm transitions based at the Beginning Farm Centre, Iowa State University. John showed me around Iowa visiting family farms that he had been involved with professionally. In his own words, I think we clocked up about 1000 miles of pressing my nose against the wind shield.

Iowa case studies

8. Mike Duffy – Professor of Economics, Beginning Farmers Centre. Iowa State University

9. Bill Northey – Secretary of Agriculture State of Iowa

10. Leigh Adcock – Executive Director Women Food & Agriculture Network

11. Tim & David Hummel – Arable and pig farmers

Case Study 8. Mike Duffy – Professor of Economics, Beginning Farmers Centre. Iowa State University

I met with Mike Duffy who gave me an insight into the economy of agriculture within the State of Iowa together with an overview of the workings of The Beginning Farmer Center (BFC) at Iowa State University. The objectives of the BFC include coordinating educational programs and services for Beginning Farmers. The Center also administers a matching program i.e. it assesses the needs of beginning and retiring farmers to identify opportunities for new and existing to work together. The Center sponsors a seminar series for students who will be returning to the farm, and also research and conferences related to beginning and retiring farmers and their needs. The BFC makes policy recommendations regarding alternative policy options to encourage beginning farmers.

Key Points:

- Iowa - land mass equal to England.
- Agriculture is the largest industry
- Corn belt of USA. 93% crops grown are maize (corn) or soya beans.
- Land prices £10,600/acre equivalent
- Farms struggled in the late 80s and early 90s due to poor commodity prices
- Plant genetic engineering is improving yields at a rapid rate. Crops seen were unbelievably consistent in terms of plant height, tassel length, cob position on stalk



and standing ability.

- Corn plant seed rates are being increased from 10,000 seeds/acre to 30,000 seeds/acre and getting same yield per cob.
- 1.5% of land within the State changes hands annually through sales.
- 2% of land changes hands through handing over to the next generation.
- Farmers buying land have the cash available for purchase outright (low levels of debt)

Case Study 9 : Bill Northey – Secretary of Agriculture, State of Iowa

Bill Northey is a fourth generation farmer from Spirit Lake, Iowa, who grows corn and soya beans. After graduating from Iowa State University in 1981 he returned to Spirit Lake to farm with his grandfather. On his farm – in which he is still actively involved - he uses reduced tillage, GPS and grid soil sampling. Besides growing corn and soya beans, the Northey farm has grown alfalfa and reared pigs and cattle through the years.

After being re-elected in November of 2010 Bill is serving his second term as Iowa Secretary of Agriculture.

As Secretary of Agriculture, he has committed to traveling to each of Iowa's 99 counties every year to hear from farmers and rural residents who have a stake in the future of agriculture. These meetings allow him to hear their needs and thus be better equipped to lead the Iowa Department of Agriculture and Land Stewardship.

Key Points:

- 3 million people live in the State
- Reinvestment in agriculture is now happening as evidenced in the new machinery I saw working
- Grain prices to date \$7/bushel, average 180/bushels/acre = \$ 1260 / acre
- Crop and livestock sales have increased from 12 billion dollars, in 2002, to 30 billion dollars in 2011.
- Dairy cow numbers in 1930 were 1 million, compared with 215,000 in 2011. The change is due to the massive shift to arable farming as a result of the higher profit per acre achievable
- Pig numbers were at an all time high of 20 million in 2011, which equates to 7 pigs per person in the State.
- Future predictions indicate higher livestock numbers, increased crop yields and higher



commodity prices.

- State colleges have record numbers of students (the highest since 1977) choosing agriculture as their discipline. It is considered that the higher financial returns, increased level of technology, and the greater entrepreneurial skills needed are the biggest factors behind these increases.

Case Study 10 : Leigh Adcock – Executive Director of the Women, Food & Agriculture Network

Women, Food & Agriculture Network started in 1997, but the name originated in 1994 when founding mothers Denise O'Brien and Kathy Lawrence of New York formed a Women, Food and Agriculture working group in preparation for the United Nation's Fourth World Women's Conference in Beijing, China. The aim was to remedy the absence of women's voices in food and agricultural issues. Along with Denise, a few dedicated individuals decided to form a network to act on their long-standing concerns about systemic rural, agricultural, and environmental problems and gender relations in these domains.

Key Points:

- 50% of land in the State is owned by women - they are either outliving their partners or the farm is left to them by their fathers.
- 10% of land is owned by women over the age of 65
- The network has been set up to advise women on the options available to them for managing their farms, e.g. tenancies, legalities, succession, etc.
- The network has close links to both John Baker and the Beginning Farmers Centre at Iowa State University
- A lot of the women were vulnerable and being taken advantage of by unscrupulous tenants
- Some farms are still being let with no formal tenancy agreement, just the shake of a hand.



Case Study 11 : Tim & David Hummel, arable and pig farmers

Tim and David Hummel operate a family farming partnership, growing corn and farming pigs, breeding them and taking them to the weaning stage. They farm 1100 acres partly owned, partly rented. John Baker has been professionally involved with this business, acting as mentor for the successful transition of the farming operation.

The original plan developed was for a 15 year business transition, between father and son, Tim and David, with five year increments. For the first 5 years Tim was in charge with David taking orders from dad. In years 6 to 10 they were equal partners with equal decision making and for years 11 to 15, David was to gradually take over the lead role. Having got to year 11, they have decided that David will now take over completely.

Key Points:

- Father and son discussed early on what they wanted to achieve – they agreed that it can be a very emotive subject and cause problems with close family relationships.
- Had a written plan, which everybody was privy to.
- Although David is now in charge, Tim still has input to decision making.
- Tim is happy with how it has gone - he still helps out on the farm
- David has bought some of his own land although Tim still owns the majority.
- The business has set up a LLC (Limited Liability Company).
- David's advice to me was that any son/daughter coming into the business has to have something to bring with him/her in terms of management skills/ideas. Without this the business will become stagnant.

International Farm Transition Network Annual Meeting and Conference (IFTN) Modesto, California

The IFTN conference brought together a host of farm transition experts from around the USA: lawyers, consultants, bankers, etc. The aim of the IFTN is to support programs that foster the next generation of farmers and ranchers in the belief that the future of the nation's agriculture depends on the ability of the new generation of farmers.



USA - Issues relative to my study

Having spent time with John Baker it became apparent that we in the UK do not have ready access to the professional capabilities available for the successful transition of our businesses. My feeling is that we have tended to brush under the carpet a lot of the issues that our American counterparts are facing up to and dealing with.

The farmers that I met running multi generation farms were extremely proud progressive farmers, and very open about their forward planning. Businesses were showing significant financial growth due to high commodity prices, thus encouraging expansion of the business.

Although not related to my study, but relative to all farmers, in my opinion the American farmers have more support from the ever growing American public than we do from ours in the UK. The American public realises that if they want cheap foods then size does matter.



John Baker with David and Tim Hummell and David's wife



6e. New Zealand

I arrived in Auckland four days before the 2011 Rugby World Cup final - the multi-cultural city of 1.3 million inhabitants swelling with rugby supporters from all around the world with of course the majority supporting the All Blacks. There was no doubt if it did not go NZ's way this would have a dramatic effect on the country as a whole. With a general election looming the Prime Minister must have been praying for an All Black win. He was lucky, they did and so was he, being re-elected for a second term in office. It was explained to me prior to the game that NZ needed the win not just for the rugby-mad population, but also the economy needed the boost of the feel good factor.

The value of New Zealand dairy exports in 2008-09 was \$NZ 10 billion, the dairy industry

being the country's biggest export earner. It is an established global industry with an exciting future.

The key strengths of New Zealand's world-class dairy industry are its efficient all-grass farming system, large-scale processing, high research and development investment and creative marketing.

The industry has been successful at diversifying both its products and the number of markets it exports to. Products range from high quality commodities such as milk powders, butter and cheese through to speciality foods such as infant formula milk powders and highly specialised ingredients like spray-dried milk proteins.

New Zealand case studies:

12. Roger Duff, Hamilton

13. Mac Clancey, Roturua

14. Andrew Benton, Amuri Dairy, Culverdon, Canterbury

Case Study 12 : Roger Duff, Hamilton

Although born a dairy farmer's son from the South Island, farming had not been Roger's first choice of career. He had been an office worker for 12 years before buying this farm in conjunction with his bank manager in a 50/50 equity partnership.

His bank manager is currently building a house overlooking the farm.

Key Points:

- 290 cows are carried on 200 hectares.
- 1 man unit, with partner helping every morning, relief milking (bank manager)
- Also had 10% equity share in a dairy farm in the South island – had not seen any dividends yet, because had bought neighbouring farm, through the cash flow.



- Has chance to buy neighbouring land where he is (Hamilton) which would then make it a 400 cow unit, and allow the addition of a labour unit.
- Heifers and poor condition cows are only milked once a day and all the others twice.
- This milking routine has resulted in a dramatic increase in production from second lactation animals, with better growth rates, fertility and general health and a marked decrease in incidents of mastitis.
- Current paddock size was 2 hectare/ day, 1 hectare/night for the main group of 200 cows.
- Roger was considering wintering away all cows for 5 weeks which will rest the grazing platform giving increased production in the spring.
- Farm was only 12 meters above sea level, so on a high tide the river Waikato would back up and some pasture would be flooded (mouth of Waikato 100kms away)

Case Study 13 : Mac Clancey - south of Roturua

Mac's father had died at a young age and the family farm had been sold with the funds being put into a trust fund. At the age of 21 Mac started his farming career and was in a sharemilking agreement for 7 years through which he built sufficient capital to purchase a herd of cows and enter into a 50/50 equity partnership. Having sufficient financial stability, and by borrowing money from the family trust fund, he purchased the 53 hectare farm in 1981 and has subsequently increased it to 116 hectares today and he also

Key Points:

- Although Mark runs the business all family members are involved in the management of the farm - Mac still has financial control of the land and fixed assets.
- Mac had some strong views on the next generation coming into the business, his own son not joining the family farm until late in his twenties. Mark's own choice had been to travel around the world, not



rents a further 45 hectares. The farm now carries 320 cows.

Having had to step back from the day to day running of the farm through ill health, Mac is now in an equity partnership with his son Mark, who runs the business. Together with his wife, they rear all the calves, and do all the maintenance around the farm.

being sure what he wanted to do.

- Mark had asked Mac to stand guarantor so that he could build a new 4 bedroom house on the farm (\$400k). Although he and his wife already had a house on the farm, they needed extra accommodation for staff
- The neighbouring farm was on the market at the time of my visit; however Mark would rather spend the money on a new farmhouse.
- Mac has a son and a daughter, and wants to treat them fairly – 2 trusts have been prepared and if the parties are unable to agree, the farm will be sold. He has no problem at all with this i.e. no emotional tie with the land

Case Study 14 : Andrew Benton – Amuri Dairy, Culverdon, Canterbury

Andrew and his wife Ann-Marie started their own farming venture 10-12 years ago. Andrew is a farmer's son and Ann-Marie was formerly a nurse in the city, giving up her job to move to the country. They made the decision to go farming with a conscious aim to rapidly develop wealth. Initially they share milked for other farmers, away from their own family, believing that they could develop their business much more quickly this way. Cow numbers grew rapidly, first to 180, then to 330 and ending up with 900 over a 9 year period. This gave them a large enough equity base to get into land ownership. The husband and wife partnership looked around both New Zealand and Australia before finally settling on Canterbury in the South Island of NZ. Andrew's parents took the decision to sell their smaller farm and Ann-Marie's parents sold their business to invest extra money into

Key Points:

- The business is managed under a corporate style board with regular advice from accountant, solicitor etc.
- Now owns 1800 hectares with equity levels growing, currently at 62%
- Consists of 3 dairy units, each equipped with large rotary milking parlours
- Employs approximately 30 members of staff – mixture of nationalities
- Milking 5000 crossbred cows
- The development of the business has faced many challenges including: land acquisition, staff retention, irrigation development etc.



the partnership for land purchase.

Canterbury's irrigated pasture land attracted the Bentons who knew that this would give them the consistency of grass production leading to consistency of cash flow that they required for their fledgling business. Subsequently neighbouring farms have also been acquired. These poorly equipped, formerly sheep farms, have been converted to irrigated dairy units with new infrastructure developed.

- Not looking to grow the business at the current time
- No emotional attachment to land
- Key to success – having a business model that works and sticking to it.
- Andrews's advice is to have a clear understanding of the situation at all times i.e. financial position, opportunities, and the consequences of their impact on your business.

New Zealand -Issues relative to my study

It is the land of so many opportunities for the aspiring young farmer. I had a meeting with a 30 year old farmer who four years ago purchased a 1000 acre farm. At that time dairying was rock bottom so for the first three years he raised beef. Last year he made the decision to switch to dairying and invested heavily into dairy equipment, infrastructure and 1600 cows. His total borrowings were circa 12,000,000 NZ dollars. I questioned him about repaying the debt. He told me that he would pay interest only, and that no capital would be repaid.

I also visited an expat who left the UK with nothing and now farms 3000 acres and milks 1700 cows, something that he would probably never have achieved in the UK. Due to the share milking and equity partnership arrangements that are so common in the southern hemisphere and the strong support given by banks to the dairy industry, he has been able to build a successful business. He has really enjoyed his journey and is not looking to just hand the business on to his children – he wants them to experience the satisfaction of doing it for themselves.

Multi generation businesses are few and far between. First generation farmers are extremely profitable, ruthless in their business decision making, and professional; these new farmers are driven business men, prepared to take calculated risks and if all goes wrong, sell it and move on.

See photo of New Zealand dairy farming on page 27



6f. Australia

Never having travelled to Australia before I was amazed at the sheer scale of the country. Flying into Melbourne from New Zealand I headed towards Southern Victoria. Part of my journey was across vast acres of land that appeared not to be farmed; apparently the livestock farmers that had farmed it had lost considerable amounts of money in the 1970s. Very poor returns on cattle and sheep meant that several farmers had destroyed their animals, digging pits and burying them.

The Victorian dairy industry is one of Australia's modern success stories. With nearly 5,500 dairy farms in operation, the

dairy industry is the state's largest agricultural employer and the biggest exporter out of the port of Melbourne.

Victoria is home to around two-thirds of the total Australian dairy production which is worth approximately \$4 billion at farm gate, and \$12 billion value-added through the food industry.

I also travelled in South Australia, a State with extremes of water levels – In the south of the State the aquifers are so high that large scale drainage is being undertaken. Two hours north, production relied on irrigation.

Australia Case studies

15. Basil and Marcia Ryan, Warrnambool, Victoria

16. David and Shirley Parkinson, Koroit, Victoria

Case Study 15 : Basil and Marcia Ryan, Warrnambool, Victoria

Basil was born in the 1940s into a family of 8 brothers and sisters who were all privately educated off the back of the 188-acre family dairy farm.

At the time of Basil's father's death, there were 4 brothers working the land. His 3 brothers all wanted their shares out of the business, so Basil bought them out.

In the 1970s an opportunity to buy the neighbouring farm was grasped – but within 3 months prices had collapsed. The business had diversified into growing crops, cereals and potatoes – the dairy herd of 140 cows

Key Points:

- 400 acres bought nearby.
- Infrastructure on home farm needed capital spending on it. Decision made to relocate dairy to 400 acre block.
- Aus \$ 1.5 million spent on new milking shed, facilities, rotary parlour, auto id, and auto drafting.
- Milking 500 cows, average yield 9000l.
- Only 1 man milking at any one time.



was also hit by the poor returns.

Basil and his wife had 4 children and times were extremely tough financially, but they took the decision to educate their children privately. The business has survived and the farm has been put into trust for the family. One of their sons, Leigham, is now managing the farm after completing an agricultural degree, and is running a very impressive unit.

“Young bull and old bull, old bull now lying down in the corner under a shady hedge, young bull tearing around the field.”

(Basil’s description of him and son Leigham)

Case Study 16 : David and Shirley Parkinson , Koroit, Victoria

The Parkinson family are totally inspirational to anyone who meets them, extremely open and frank about their business and future plans.

David is a second generation farmer; his father started farming with 200 acres. In 1980 David and Shirley bought their present farm, adding to it as land became available.

David and Shirley have 5 sons. Two are directly involved in the business, each managing one of the 2 dairy units. The 3000 acre all grass farm carries the 9000 litre, 1600 cow herd.

The Parkinson family have thought long and hard about the succession planning for the farm. At the time the 2 boys joined the family partnership, the business was valued. On the death/retirement of their parents the business will be re-valued, the idea being that the 3 non-farming brothers will inherit one fifth of the original value, and the brothers farming will each inherit their one fifth, plus half of any growth achieved.

Key Points:

- Trust set up for trading under corporate body.
- Equity of the business is currently 80%
- Operating profit of \$1000/cow – current milk price \$5.30/kg solids, break even \$3.80/kg solids
- Payback on money invested in land 4/5 years.
- All cows calved on home farm.
- 6 full time staff
- 2 x 60-point rotary sheds. Expect 20 year life.
- 22 day paddock grazing rotation.
- Pasture had water 10ft below surface. Cows graze 365 days. Temperatures range from 4-40°C .
- Employees are not supplied houses – travel expenses to work are paid
- 600 heifer calves a year, 100 exported annually to China (flown) – cash crop.



Australia- Issues relative to my study

The opportunity to purchase land at more affordable prices is luring farmers from overseas, plus homegrown multi generational businesses are in the market place. Australian farmers, like the British, are prepared to create the family business. Planning for the future is high on the agendas of many farm businesses where the use of corporate type boards, outside chairmen, etc., promotes the realization that continuance of the business is a high priority. Generally speaking members of the older generation to whom I had spoken were prepared to retire, and open about the decisions they had put in place for the next generation.



New Zealand dairy farming



5. Conclusions

Family farm succession is not an obligatory process, rather an outcome that is achieved over an extended period of time. The taxation system, particularly in the UK, can mean that, without careful planning, a large amount of capital is needed to pay inheritance tax. This can result in the sale of land and the gradual demise of the family business.

Tradition and sentiment seem to be a major hurdle to progress, particularly in the UK and Europe.

The number of farms and farmers is decreasing – those who remain in the industry have to increase operation size and gain benefit from the economies of scale. The world's population has a growing, insatiable need for cheap food and the onus is on farmers to produce what the consumer wants.

We need an industry that is profitable and sustainable, one that encourages and attracts the next generation of farmers. Equity levels have to be taken into account for successful succession planning. Due to an increased life expectancy many businesses will have to support up to three generations.

Of all those farming businesses that I have visited, those that have been open with and have trust in each other are the family businesses that are and will continue to succeed. Communication, honesty, compromise and a mutual clear vision of the future, together with detailed planning, are the key elements for success.

There is no one-size-fits-all template that provides the answer.



6. Recommendations

Farming is no different to any other business - the sooner we realise this, the better for the industry.

In order to succeed and remain sustainable, farmers need to change their ways - the days of just being “hands on” have gone. We are responsible for high turnover businesses and spending time in the farm office is as important as being in the milking parlour.

The family farm should develop a clear strategic plan that all parties concur with. Each member must be open about his ambitions, concerns and expectations and

agree where the business is going and what he wants the business to do for him.

Enlist the help of professionals – involve the best people i.e. accountant, lawyer, bank manager, etc. Money spent at this stage will undoubtedly lead to a better outcome and save the business money later.

Future succession is influenced by previous succession experiences. Do not make the same mistakes, remember the past forms the future.

In terms of expansion seize opportunities as they arise – it’s a dog eats dog world!

“Communicate, compromise, be positive - you and your business will succeed!”



7. The effect of Nuffield

William Morris founded the Nuffield Trust, fundamentally to give farmers the opportunity for personal development. I certainly feel that I have met his aims.

By joining the “Nuffield Family” I have been given access to a network of similar minded people around the world, some of whom I have already contacted and enjoyed the hospitality of. Similarly my wife and I have had a number of Scholars visit us in our own home.

Nuffield has tremendously improved my self confidence and given me the belief that I can get involved in policy decision making within our industry – *I do matter and so people should listen to me* – maybe I can make a difference.

Having never really appreciated the older generation’s traditional ideas, I now see that it is because of them that we are where we are today. There always has been farming

and there always will be farming but we must adapt and change our industry as required.

Travelling around the world has really opened my eyes – I have visited some excellent operators and their success has given me the motivation and desire to take more calculated risks and drive our business forward. Having already increased our herd size to 550 cows within my study period, I am investigating a further increase in the very near future.

Whilst I sit here writing this report, we have been subjected to yet a further cut to our milk price, yet despite the tough times I remain positive about the long term future of dairy farming.

I now see just how important planning is and am determined that the future of our family farming business will be well structured. I will implement a long term development plan, and written protocols for the management of our dairy herd.

“A challenging but eternally worthwhile journey”





8. Acknowledgments

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Appendix 1 : Calving Protocol at Kinnard Farm

- Check freshening pen on a regular basis (about every 15 minutes) if an animal is located there.
- Check pen 21 & 46 every 15 minutes during every shift. Animals with water bag out or feet of calf exposed should be moved immediately to freshening pen. Ear tag of cow written on dry erase board with the time put in the pen.
- Cow should be left alone at this time to allow her to have calf, unless presentation of the calf is abnormal or cow is giving signs of something abnormal. If something is abnormal, clean vulva of cow and check with plastic sleeve to correct the position, try to correct the position and pull the calf out if cow is dilated enough. **DO NOT USE TOO MUCH FORCE WHEN PULLING THE CALF.** Call the herd manager or vet for assistance if you need help.
- If the calf is in the normal position, allow her to have calf unassisted. Allow 2-3 hours for a cow and 3-4 hours for a heifer.
- **DO NOT USE PULLER UNLESS NEEDED.**
- When calf is born, place it in front of headlock to aid in locking in the cow. Allow the cow to lick the calf off while doing other tasks.
- A pail of warm water should be offered to cow.
- Write calving date on the right side of the cow on the upper ribs.
- Make sure cow has red leg band, zip ties in ear tag (for BST use) and record calving information on clipboard in the vet room.
- If cow has Johnes (blue ear tags), a blue leg band must also be put on cow's leg so that milk can be identified and discarded in the parlor.
- The calf should be taken care of immediately!
- Dip the navel in 7% tincture iodine.
- If bull, warm 1 gallon bull colostrum for ½ hour in hot water in the sink.
- If heifer, put in the next set of ear tags with the date written on each one by hand.
- 1 cc of TSV2 vaccine is also given up each nostril
- 1 gallon of heifer colostrum is put in hot water in the sink for ½ hour.
- Make sure everything is recorded on paperwork.
- After ½ hour in hot water, the colostrum should be warm enough to feed by an esophageal feeder bottle. Be careful not to get it into the calf's lungs.



- Mark the calf with a pink paint stick on the upper rear of the calf.
- Cow should get moved to fresh pen immediately, unless problem occurs.
- Cows with twin calves should have a “T” put on their side after the date.
- Twin heifer calves are both kept-tagged.
- Twin bulls-both shipped.
- Heifer and bull – do not keep the heifer, white tag used. Both calves are shipped.