



**A Nuffield Farming Scholarships Trust
Report**

Award sponsored by

The John Oldacre Foundation

**London 40 miles:
farm business diversification near cities**

Andrew Janaway

July 2014

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NUFFIELD FARMING SCHOLARSHIPS TRUST (UK)

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A Nuffield (UK) Farming Scholarships Trust Report



Date of report: July 2014

*"Leading positive change in agriculture.
Inspiring passion and potential in people."*

Title	London 40 miles: farm business diversification near cities
Scholar	Andrew Janaway
Sponsor	The John Oldacre Foundation
Objectives of Study Tour	To study farm businesses that have diversified, developing new income streams to improve their financial performance and stability: particularly where this has occurred near urban areas, and farmers have capitalised on their location.
Countries Visited	United States of America, United Arab Emirates, Australia, United Kingdom
Findings	<p>Commodity prices in the UK have fallen in real terms since 1995, economies of scale are increasingly harder to achieve as land prices rise steeply, and this is particularly apparent close to urban areas.</p> <p>Diversification into new enterprises can spread risk and improve financial performance.</p> <p>Individuals and businesses diversify for a number of reasons and in response to varying circumstances.</p> <p>There is no one reason why a particular diversification succeeds and another fails.</p> <p>The key is to understand your market completely.</p> <p>Location is important, but not necessarily in terms of proximity to markets. Proximity to good transport links can be just as important.</p>

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The opinions expressed in this report are my own and not necessarily those of the Nuffield Farming Scholarships Trust, or of my sponsor, or of any other sponsoring body.

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1. Introduction

I am the fourth generation of our family to farm in Hampshire. My great grandfather moved to the county from Wiltshire to take a tenancy on a small farm near Basingstoke.

By the time my grandfather took on the business the freehold of the tenanted farm and a neighbouring farm had been purchased. In 1971 my grandfather died suddenly at the age of 53. Unfortunately there was no will or succession planning in place, and my father and uncle were forced to return home to the family farm and a large inheritance tax bill.

Driven by a need to boost the farm income plus having entrepreneurial spirits, my father and uncle diversified the business from traditional Hampshire mixed farming and ventured into new enterprises such as potatoes, pigs, pick-your-own and on-farm commercial lets.



Me, Andrew Janaway

Undoubtedly their focus was on business growth, and to them, that meant buying more land and farms, expanding physically. In 1987, they bought a 1000 acre seed potato farm in Scotland and, in 1996, a 1000 acre arable farm near Winchester.

I studied Agricultural Business Management at Wye College, London University, graduating in 1993. I then joined Vitacress Salads, a business growing and packing salad crops for the multiples, as a management trainee and worked in all areas of the business including 5 months in Portugal. I returned home to join the family business in 1995, a year after my brother Gavin.

In 2003, the partnership with my uncle was split, with my father, brother and I taking the majority of the land ownership. Since then my brother and I have sought to continue to grow the business, ever mindful of the old adage "If you are standing still in business, you are actually going backwards".

We have significantly increased our potato and cereal acreages by renting more land, but by doing so have immersed ourselves more and more into commodity production. I have never found commodity production particularly rewarding, but latterly the vagaries of the markets, and the frustration of being a "price-taker" - despite being the producer - have made me want to seek new revenue streams.

"If you are standing still in business,
you are actually going backwards"



2. Study Tour - where and why

2a. USA June 2013 - 4 weeks

I had visited the USA on a number of previous occasions before visiting as a Nuffield Farming Scholar last year. I had always been struck by how much the domestic agriculture and food industries there were dominated by a few very big players.

However on my visits in 2011 and 2012 I had become aware of a growing sense of unease amongst the American public about where their food was coming from. Successive food scares and exposés of dubious practices had seen consumers ask more questions of their food suppliers and encouraged them to look to alternatives. I was intrigued as to whether this meant that small producers were now managing to secure market share and maintain it.

My other reason for visiting the US is that the percentage of their population living in cities is similar to that of the United Kingdom. As my study is particularly concentrating on agribusiness diversification near cities, I was hopeful of finding some good examples that could perhaps be replicated there.

2b. UAE November 2013 - 1 week

I had never travelled to the United Arab Emirates before, but an old school friend, working in Dubai, alerted me to a government initiative, instigated by the various ruling families, to increase food security. This was partially a response to the food riots that had occurred across North Africa and some of the Gulf States in 2010 and had contributed to the Arab Spring uprisings.

I was very intrigued to follow up on this lead, and see how its objective could possibly be achieved in a country that is 80% desert, with its capital, Dubai, being one of the world's fastest growing cities.

2c. Australia January 2014 - 4 weeks

The Australians I met at the CSC conference in Canada in 2013 gave me a very useful insight into diversifications that were underway in Australia, and were sure that their lack of a subsidy system was a very big driver in agribusiness diversification. Land prices in Australia have also been rising sharply in recent years, something I have been aware of, and frustrated by, in Hampshire.

I was interested to see how farming businesses were managing to expand and achieve a return on capital. I had also become aware that Australia had ridden the recent global economic downturn better than most. In fact, its cities have been some of the fastest growing in the Southern Hemisphere. I was keen to find out which agribusinesses, if any, were benefiting from the strong economy and how they were doing so.

2d. United Kingdom 2013/2014

I felt it was important to look at agribusiness diversification that already existed in the UK, and to see what could be happening 'right under my nose' and to what degree location was a factor in any success.



3. Background to my study subject

Managing a farming business involved in commodity production, my brother and I have seen our farm income fluctuate, sometimes wildly, from year to year.

Figure 1 shows the agricultural industry income trends from the year I joined the business through to the present day. It also shows the Total Income from Farming per Annual Work Unit (AWU).

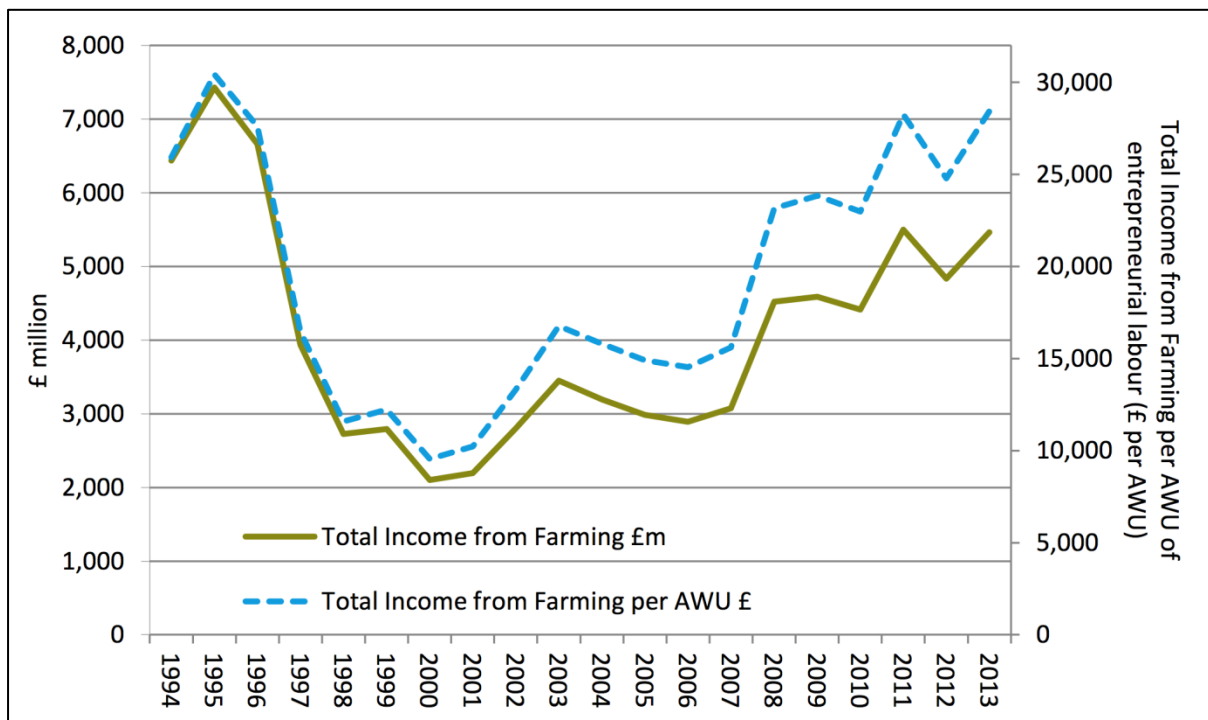


Figure 1: Agricultural industry income trends in the UK (in real terms)

Source: DEFRA, National Statistics

Despite a significant improvement on the low of 2000, farm income in real terms is still 26% less than the peak of 1995. Owing to a decline in the number of farmers and other unpaid workers the Total Income from Farming per AWU and labour has performed better than the Total Income from Farming figures.

The upward trend in Total Farm Income since 2008 may be seen as welcome news, but needs to be considered against a backdrop of rising input costs. *See Figure 2 on next page.*

In Figure 2 the Total Input Costs include variable costs, such as seeds, fertiliser etc and fixed costs such as depreciation on machinery and buildings.

Total Input Costs can be seen to have increased pro rata with Total Outputs, thereby negating any increase in profit margin.

My further concern is that this downward pressure on what we can call 'farmgate' prices is due to fundamentals that are unlikely to change in the short to medium term:

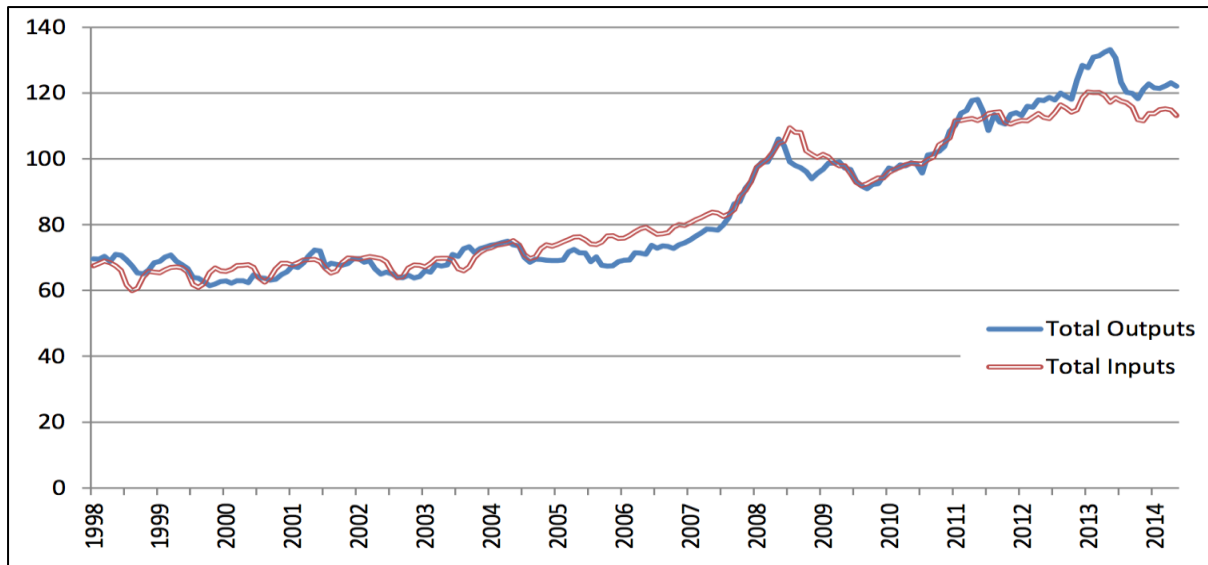


Figure 2: Agricultural price indices (2010=100) Source: DEFRA, National Statistics
Source DEFRA, National Statistics

- The price and income elasticity of food

*Price Elasticity is defined as % increase in quantity demanded/% increase in price.
Income Elasticity is defined as % increase in quantity demanded/% increase in income.*

An elasticity of 1 unit is elasticity, more than 1 is elastic, and less than 1 is inelastic. Typically both price and income elasticity is less than 1 for food (milk 0.3, beef 0.48), which means that the demand for food is not responsive to a change in price or income.

- Increased Global Production
- Increases in farming efficiency led by new technology, new varieties and techniques, are gradually increasing global supply. This will only accelerate as agriculture in developing countries catches up with the rest of the world.
- Lack of Government Support for Domestic Food Production

In April 2014, Farm Minister George Eustice announced that the Government were content with current UK levels of self-sufficiency in food, even though the UK produces just 62% of its own food, down from 75% in 1991.

Having witnessed how protectionist other Governments can be towards their domestic agricultural industry, particularly in the US, I was amazed Mr Eustice went on to add 'Food security is not just about self-sufficiency at a national level. Actually having open markets and free trade globally has got a very important role to play in making sure we have food security'.

If a viable business is defined as one producing a trading cash surplus sufficient to finance private drawings and business requirements (tax liability, capital repayment, reinvestment, expansion) then



I believe it is increasingly difficult to maintain a viable business producing commodity products that are traded on world markets.

Historically the solution was to increase the size of the business, by purchasing more land, increasing production and achieving economies of scale. However, this solution I feel is no longer a viable option for us as a business. Farmland prices have risen too sharply for us to fund land purchases from our current business model.

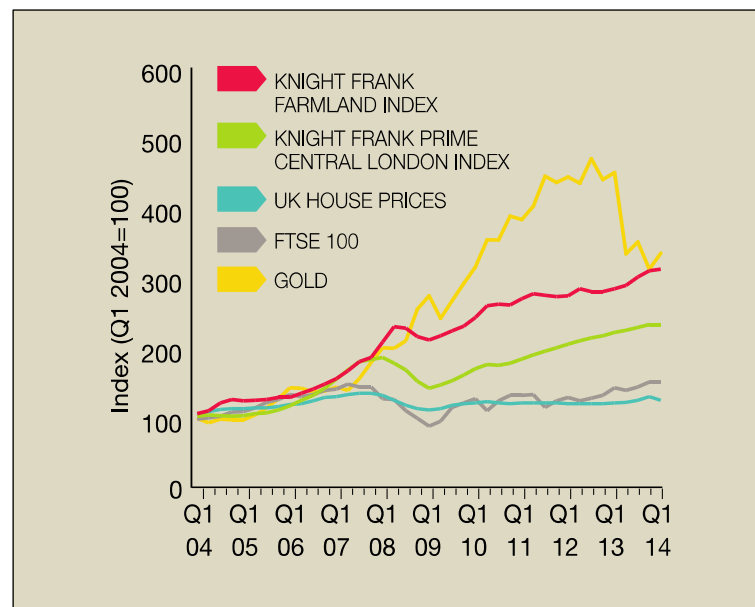


Figure 3: Change in capital values
Source: Knight Frank Residential Research Farmland Index Q1 2014

Figure 3 illustrates the recent trend in UK farmland values over the past 10 years. Over the past 12 months values have increased on average by 16% and over the past 10 years by 212%. This compares with 133% from prime residential property in Central London, 51% for the FTSE 100 index, and 27% for the Average UK Home Index.

However, even with these remarkable figures in mind, the farmland values I have given are for the UK average. As we have found out first-hand, average values mask the diversity that exists in the farmland market with some sales achieving values in excess of £12,000 per acre within Hampshire. The county's location in the South of England sandwiched between the South Coast and London means competition for land with residential and commercial property developers is fierce.

Over the same 12-month period commodity prices have, in some cases, seen double digit falls, as shown in **Figure 4 on next page**.

My reaction to this inability to expand our farm size physically has been to look inwardly, and to see how we might increase our farm income from our existing resources, or in business parlance, how we might 'sweat the assets'.



Commodity prices	Latest	12-month change
Outputs		
Feedwheat (£/t)	168	-14%
Oilseed rape (£/t)	325	-15%
Beef (p/kg dw)	373	-5%
Lamb (p/kg dw)	473	2%
Milk (p/litre)	33.8	12%
Input prices		
Fertiliser (£/t)	299	-2%
Red diesel (p/litre)	67	-9%
Oil (\$/brl)	105	-1%

Figure 4: Key agricultural indicators
Source: Knight Frank Residential Farmland Index Q1 2014

Initially there are number of ways we might achieve this, some requiring a greater commitment of resources than others:

1. Increase yields

Whilst this has always been our focus, benchmarking with the NIAB research centres led me to believe that we were already in the top quartile for our area and soil-type, and unlikely to improve yields by more than a few percent.

2. Change enterprise mix

I feel we are currently using the best rotation for our soil type and disease pressures, and that our labour profile matches requirements well.

Reintroducing livestock does not appeal either, as unless we could be highly specialised, we would just be exposing ourselves to another commodity market.

3. Reduce costs

Again, benchmarking highlighted the cost base of our cereal and potato production is already amongst the lowest in the country.

4. Adding Value

I do like the concept of 'adding value' to a product, and have seen this work well with local dairy farms producing cheeses, yoghurts etc. However, I could not see how we could do this easily with our 2 core products of wheat and processing potatoes.

5. Diverting resources to non-agricultural uses

(continued overleaf)



This struck me as a very logical option for me to explore. I have always thoroughly enjoyed the cut-and-thrust of business, and was excited by the idea of perhaps a new enterprise or investment that could secure a good return on capital, without exposing us to the uncertainty of commodity production. What's more I wanted to see whether I was wrong to perceive our location, in the heart of a commuter belt with urban encroachment and high land prices, as a negative, and if in fact it could be a positive influence on any new enterprise.

The premise for my Nuffield Farming study has therefore been to put in place who out there had diversified successfully into new enterprises, developed new income streams, and what made them succeed.



4. Diversification as a strategy for business growth

One way of analysing the various strategies that an organisation may use to grow its business is with the Ansoff Matrix. Igor Ansoff was a Russian/American mathematician and Professor at Harvard who applied his work to the world of business. The purpose of this matrix is to help managers consider how to grow their business through existing or new products or in existing or new markets.

		Product	
		Existing	New
Market	Existing	Market Penetration	Product Development
	New	Market Development	Diversification

Figure 5: Ansoff's matrix
Source: www.bized.co.uk

Ansoff's matrix suggests four alternative marketing strategies, which hinge on whether products are new or existing. They also focus on whether a market is new or existing. Within each strategy there is a different level of risk. The four strategies are:

1. Market penetration

This is the least risky strategy and involves increasing market share within existing markets. This can be achieved by selling more products/services to established customers or by finding new customers within existing markets. In a growing market, simply maintaining market share will result in growth, and there may exist opportunities to increase market share if competitors reach capacity limits. However market penetration has limits, and once the market approaches saturation, another strategy must be pursued if the business is to grow.

2. Market development

(continued on next page)



Market development options include the pursuit of additional market share, or possibly geographical regions. The development of new markets for a product may be a good strategy if the business's core strengths are related more to the production of the product than to its experience with a specific market. Because the business is expanding into a new market, a market development strategy typically had more risk than a market penetration strategy.

3. Product development

A product development strategy may be appropriate if the business's strengths are related to its specific customer, or markets, then to a specific product. In this situation, it can use its strengths to develop a new product targeted to its existing customers. Similar to the case of new market development, new product development carries more risk than simply attempting to increase market share.

4. Diversification

Diversification is the most risky of the four growth strategies, since it requires both product and market development, and maybe outside the core strengths of the business. However, diversification may be a reasonable choice if high risk is compensated by the chance of high rate of return, or indeed if the other strategies have been exhausted. Other advantages of diversification include the potential to gain foothold in an attractive industry, and the reduction of overall business risk.

The Ansoff matrix tends to suggest that strategies for business growth are mutually exclusive. However, in terms of agriculture, and as I observed during my Nuffield Farming study, I believe that there is often a little bit of all four strategies in play.

4a. Agricultural diversification

DEFRA, the UK Department of Environment, Food and Rural Affairs, defines diversification simply as *'the entrepreneurial use of farm resources for non-agricultural purpose for commercial gain'*. However, as with the Ansoff matrix, I find their definition too restrictive and concise. Instead I prefer this definition from Wikipedia *'In the agricultural context, diversification can be regarded as the re-allocation of some of a farm's productive resources, such as land, capital, farm equipment and paid labour, into new activities'*. This encompasses the fact that not all diversifications are non-agricultural, and that commercial gain isn't always the priority in diversifying.

About half of all UK farms are involved in some sort of diversified activity in their farming business, bringing in an average of £10,400 extra revenue per farm per year. (DEFRA *'Diversifying Farm Business, 21 January 2014'*).

Before I undertook my overseas travels I thought it would be interesting to look at the pros and cons of diversification as a business strategy in agriculture, and what consideration should be made by any would-be diversifier.

I thought the best way to achieve this would be to speak to those involved in farm business advisory work and the lenders that might be approached for any capital. I met with the HSBC Area



Agricultural Manager and a farm business advisor to Lloyds Bank who was also a Rural Development Programme for England (RDPE) grant assessor. From my conversations with them I managed to compile a check-list of questions they would typically ask those looking at diversifying to consider:

- 1. What is driving diversification?**
 - Genuine interest and enthusiasm
 - Financial desperation
 - Chasing grants
- 2. What will the effect on the core business be?**
 - Implications on time, cash flow, labour etc
- 3. Is it an appropriate diversification?**
 - Does the business have the correct location or resources
 - Current state of the market
- 4. What are the capital requirements? And how will it be funded?**
 - Retained profits
 - Cash flow
 - Loans
 - Grants
- 5. How profitable will it be?**
 - Is the return on capital sufficient
 - Demand for product
 - Production costs
- 6. Is there a requirement for new skills?**
 - Training requirements and costs
- 7. Other**
 - Legal requirements
 - Tax issues

Interestingly enough, each professional shared with me the same gem of advice: years of experience has taught them the first thing to look at when assessing the viability of a diversification was not the idea itself, but the existing business. If this wasn't being run well, there wasn't a hope that the diversification would be.

If ... the existing business ... wasn't being run well, there wasn't a hope that the diversification would be.



5. Who diversifies and why?

As I planned my Nuffield travels, I was conscious that I wanted to focus on those businesses that, where possible, mirrored my situation in the UK. This meant I primarily wanted to look at businesses that had diversified to capitalise on their location near cities, and were offering products or services to their local market.

Essentially I found that there were 2 main drivers to the diversifications I observed:

5a. Improve financial performance

As diversification is a strategy for business growth, I was not surprised to learn that the most common reason why a particular business had diversified was to improve financial performance and stability.

However, as I delved deeper below this overarching principle I realised that there were, in fact, a myriad of reasons why this poor financial performance had come about, and equally there were many different types of diversification being undertaken as a result:

5a.i. Increase viability

I visited a number of smaller farms that were struggling to remain viable and had diversified. Typically, given the focus of my study, they were located near centres of population. Their problems have generally been two-fold: firstly being small units, they were struggling to achieve any economies of scale in terms of production. Secondly, they were often finding it difficult to expand physically with their proximity to urban areas forcing up land prices, as the towns and cities encroached upon them. *(continued on next page)*



Figure 6: Grow NYC market information stall - Union Square Greenmarket, Manhattan



The average farm size in New York State is less than 200 acres, about half the US national average farm size. However I found small farming businesses that were managing to survive by taking advantage of having the largest city in the US on their doorstep. They were being aided by Grow NYC, a non-profit organisation. (See picture on previous page).

Grow NYC has a two-fold mission, *‘to promote regional agriculture by providing smaller family farms the opportunity to sell their locally grown products directly to consumers, and to ensure that all New Yorkers have access to the freshest, most nutritious locally grown food the region has to offer’*. The organisation has 3 very interesting programmes in place to achieve this aim and to help local agriculture:

- i. **Greenmarket Co.** is the most recent initiative. It provides a delivery and brokering service for farmers wishing to engage in wholesale sales to the City’s restaurants, groceries and institutional kitchens (hospitals, schools etc). It picks up where the longer established Farmers’ Markets leave off, suiting larger local producers who can market significant volumes at a time.
- ii. **The second programme is called FARMroots** (Farm Assistance Retention and Management) and is available to more than 230 local producers. Essentially it is a business advisory service available to members of Grow NYC, and offers advice on legal, marketing and production issues. The depth of technical support on offer was breathtaking and I was very impressed. Their *modus operandi* was simple, and I wondered whether London could adopt such a positive stance. *‘Using our unique knowledge of Greenmarket (the Farmers’ Market and Wholesale business), the East Coast’s largest market place, and the needs of small, diversified producers, we work to increase the long term viability of participating producers’*.
- iii. **The third programme run by Grow NYC** is perhaps the most high profile; what it calls Greenmarkets, or we would know as Farmers’ Markets. The organisation manages to run 54 separate markets each week, with over 230 family farms and fisherman participating. The market I visited was on Union Square in Manhattan. It was very busy and well supported, not just by local residents, but there were plenty of chefs there too, searching out fresh ingredient for the day’s specials boards.

See Figure 7 on next page: Union Square Greenmarket

Amongst the highly stacked radishes, I found Zaid Kurdieh from Norwich Meadows Farm. Zaid had formally worked in the United States Department of Agriculture (USDA) and lectured in agriculture at Cornell University, before starting to grow organic vegetables on half an acre of land adjacent to his home. Zaid was very enthusiastic about the opportunities Grow NYC had afforded him, and had become something of a local celebrity, and the first port-of-call for local chefs. Ten years after starting out, Zaid was now farming over 60 acres of vegetables including greens, lettuces, roots, herbs and legumes.

I was particularly interested in his new venture, which highlighted to me the need to be in touch with your customer base. In recent years Zaid had received an increasing number of enquiries from Muslim families looking to source locally produced organic Halal meat. Aware that this potential market was being underserved, Zaid had rented (contd. 2 pages further on)



Figure 7: Union Squaare Greenmarket



Figure 8: Zaid's organic radishes



a further 20 acres of pasture, and was raising his first chickens, turkeys, lambs, goats and beef animals.

I was left slightly in awe of Zaid and his family's achievements from such a small beginning, and delighted to find that tapping into their local economy, with the help of Grow NYC, was affording them a good standard of living.

5a.ii. Falling Prices

One of the key reasons I wanted to look at agribusiness diversification as my Nuffield topic was due to my frustration at being a commodity producer. In real terms our income has dropped since I joined the family business in 1995, and the fluctuations in price, and hence income, have made projecting cash flows and planning capital expenditure very difficult.

In the heart of the Dutch Country and the Amish Community in Pennsylvania, I found a frustrated milk producer who had pioneered a diversification and trend that he called 'agritainment'. In 1996, the Coleman family, in the face of falling milk prices, jumped on to the bandwagon of the day, the craze of maize mazes that was sweeping across the United States. Since then over a million visitors have passed through their Cherry Crest Farm, and the farm has boasted some of the most beautiful and intricate patterned mazes in the US.



Figure 9: Designing the Maize Maze at Cherry Crest Farm

Although the maze is an attraction in itself, I was particularly intrigued by the large adventure playground adjacent and the thought-process behind its conception. The area, called The Barnyard, consists of a number of activity areas and apparatus, where visitors are challenged, mentally, physically or both. The activities range from shooting basketball hoops



and giant catapults, through to setting up an intricate series of guttering so that the water is channelled into a chamber to release a prize. The idea is that parents, with their children, would head to Cherry Crest Farm, over other tourist destinations, because their children would be tested mentally or, with obesity in the US at record highs, spend the day burning off calories on the physical challenges. I personally thought it was a great concept and a fine example of a Unique Selling Point (USP).

Although it was difficult to establish the exact revenue from the farm's diversification, I learnt that up to 9000 visitors a day can visit the farm at its busiest time. Although the park only opens seasonally, this equates to over 100,000 visitors per annum, with people traveling from as far away as New York (4 hours) as well as from more local towns and cities. The price tariff for 2013 was \$10/day for The Barnyard and \$15/day for entrance to The Barnyard and Maize Maze. Interestingly \$18 got you a ticket to The Barnyard and The Maize Maze for a non-scary Halloween Experience, another great USP that had parents flocking with their little ones, keen to avoid weeks of sleepless nights and nightmares.



Figure 10: One of the physical challenges at Cherry Crest Farm

5a.iii. Rising Costs

Rising costs have very much been a feature of UK agriculture in the last 6 years, with increases in the prices of fertiliser, labour, machinery and fuel all effecting farm profits.

In Australia, I observed how rising input costs were forcing farmers to change cropping, and diversify into higher value crops, to keep their business viable.

In Howlong, NSW, I met Paul Trevethan and his family. Paul had just won The Australian Diversification Farmer of the Year Award 2013.



Originally Paul was employed in the oil industry in Research and Development with Shell, but had an agricultural background from his roots in Cornwall. He told me his interest in farm diversification had started many years ago, in 1976, while he was on his honeymoon visiting his wife's relatives in Scotland. *"They had highly diverse enterprises with broad acre cropping, forestry, horticulture, livestock and salmon farming. It had an enormous impact on me"*. Paul and his wife Joan bought their first farm in the 1980s and at first it was traditionally cropped producing cereals, sheep and wool. They now own four properties, lease one, and are share farming three others. It has always been fundamental to Paul that these investments 'stand on their own two feet' and that the return on capital maximized.

As the Trevethans have expanded their business, they have faced sharp increases not only in land prices, but in irrigation water too, with the pair typically being traded together. In 1998, farmland near Howlong was trading at \$900 AUD per hectare including irrigation. Now farmland trades at \$1800-2000 AUD per hectare, with a further \$2400 AUD per hectare being added for the water.

Paul says it is these rising costs that have been the main driver for him to diversify. The first diversification was put in place in 1996, with an aquaculture enterprise. Fingerling Murray Cod and Silver Perch are bought in, and initially farmed in indoor tanks before being moved out and grown on in outdoor ponds. The initial investment in the infrastructure was approximately \$1 million, and partly funded by selling off the struggling beef herd.

The fingerlings arrive weighing between 1 and 2 grammes each, and take between 2 and 3 years to grow to the 700 gramme 'turn-off' size. The Trevethans sell about 15t of fish per year, which nets about \$250,000 AUD annually.

Paul identifies their proximity to Sydney and Melbourne as being important in the success of the enterprise, as well as understanding the requirements of their customers. *"Our fish is sold chilled to the Melbourne Fish Market and live to a Sydney wholesaler. They service local Vietnamese and Chinese communities, and it is very difficult to connect with these end consumers, so, in our case, we need to align with fish wholesalers, rather than the end user"*.

5a.iii..Changing Family Circumstances

'Changing Family Circumstances' could perhaps just as easily be accommodated under my other sub-headings of why businesses diversify, such as Increasing Costs or Increase Viability. However I found so many incidences on my travels where it was the driver for change in itself, that I have singled it out for particular comment.

In South Australia, I met Paul and Tracey Daniel, a very enthusiastic couple who had diversified to accommodate Paul's brother, but also with an eye to leaving a viable business for their 3 children. The Daniels' farm is located less than 3 hours from Adelaide and served by good roads. Adelaide is a rapidly expanding city, and I observed countless new residential developments under construction, and yet more land that was earmarked for development. It is the city's rapid expansion and the demand for instant manicured lawns that led the Daniels to consider turf productions.



In 2003, Paul's brother had returned to the family farm and the business was split 50:50. The farm, until that time, had been farmed in the traditional broad acre style, typified by a concentration on commodity production such as wheat, canola (OSR), wool and lamb. However successive drought years and poor prices meant that the business was struggling to remain viable, and with the production base being further cut by 50%, they felt they had to diversify to survive.

The new enterprise started with 1Ha of turf under the existing pivot irrigation system eleven years ago. It now covers 30Ha of the farm, producing up to 120,000m² of turf per annum.

Initially the turf was just sold to a wholesaler, but 5 years ago the Daniels became grower members of The Turf Farm Group. The Turf Farm brand is nationwide and seemed to me to be a very clever marketing organisation for its growers. For each roll of turf sold, the grower is typically paid about \$12/roll; 30c is then clawed back as a royalty fee to the breeder, and a further 30c is taken by The Turf Farm Group and put into a marketing fund. The very best thing that I thought the Group did, and I could tell the Daniels greatly enjoyed and appreciated it, was to use a percentage of the marketing fund to host Growers' Conferences. The conferences are essentially grower get-togethers with an industry review, but they would also have Australia's leading motivational and business speakers address the conference, instilling a sense of pride and unity in the in the growers.



Figure 11: Turf being grown for Adelaide housing boom

Although the diversification started as a way to accommodate family change, Paul also quickly points out that it has also been a very useful tool in spreading risk into non-agricultural sectors. He explained *'Turf itself is an agriculturally grown product, but it is*



actually a building product, linked to the building industry, which gives us diversity from the agricultural industry’.

5b. Passion / Lifestyle

Very occasionally on my Nuffield Farming Study tour, I came across an individual who had diversified, not out of necessity, but out of an urge to pursue a passion or a lifestyle. In these cases, improving financial performance was rarely on the agenda, and often the diversification never made any money at all.

I knew immediately who I wanted to speak to when I thought of a farmer with a diversification borne of a passion: Michael Eavis, the founder and organiser of The Glastonbury Festival.

The idea for an on-farm music festival came to Michael, a life-long music lover, in 1970 when he and his wife visited the Bath Blues Festival and saw Led Zeppelin. Later that same year, Michael opened up a single field and hosted the first Pilton Festival, charging 1500 revellers £1.50 each to enjoy Marc Bolan and a free pint of milk from his cows. As it turned out the festival lost £1500 that year but was deemed a huge success. Eavis maintains it was *‘the best investment he ever made’*. Forty four years on and the festival, now called The Glastonbury Festival of Contemporary Performing Arts, hosts 200,000 people over a weekend and sells out in under 2 hours, months before the line-up is even announced.



Figure 12: Glastonbury festival pyramid stage 2 months after the event

Michael maintains that the festival has to fit in around the working farm. The farm runs a 385 cow dairy herd and, in 2014, Michael and his herd manager, John Taylor, won the prestigious NMR/RABDF Gold Cup at the Livestock Event.



As you might expect with a farm diversification driven by a passion, Michael's aim is to provide the best festival experience, rather than worrying about profit. The majority of the income is swallowed up in security, staging, band fees and other infrastructure. The farm receives a fee for hosting the event, but profits are donated to charity.

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Figure 13: A brief respite from the rain at Eavis's dairy award-winning Worthy Farm



6. Who is successful and why?

The success of the diversifications I studied were rarely down to one particular factor, and often less tangible factors came into play: work ethic, intuition, and even good old fashioned luck.

That said, I tried to establish from the people I visited what was the competitive advantage they had, that had helped them to be successful.

6a. Niche Market

‘Niche markets’, or ‘marketing niches’, it could be said, sit at the opposite end of the agricultural production spectrum to commodity generation. Typically, niches don’t exist per se, but are created by identifying a demand, or even creating a demand with marketing, and then fulfilling that demand. *“As a strategy, niche marketing is aimed at being a big fish in a small pond, instead of a small fish in a big pond”* – Business Dictionary.com.

Bloom Microgreens are located in Los Osos, California, midway between Los Angeles and San Francisco, on the Central Coast. The area is typified by large fields growing intensive vegetables under heavy irrigation for distribution across the USA. Bloom’s production was in stark contrast to this.



Figure 14: Bloom microgreens

Microgreens are essentially the seedlings of plants that are harvested at between 9 and 21 days of growth, at the 2 true leaf stage. The plants that work best as microgreens are those with intensive flavour and/or colour. Coriander, basil, fennel, amaranth, broccoli and sunflowers are all commonly grown. The shoots can be added to larger-leaf salads to boost flavour and colour, served on their own in ‘gourmet’ salads, or often just used as a garnish on a plate.



A relatively new phenomenon, Bloom Microgreens' owner, Kara Wood, has built up a remarkable trade with local restaurants and also sends her microgreens to high-end restaurants in San Francisco, Los Angeles and Las Vegas.

Bloom now offers over 40 different products to a customer base of over 300 restaurants. Uncomfortable with the idea of being tied in by complicated banking arrangements or the endless bureaucracy of chasing federal grants, Kara has funded her expansion purely out of cash flow.

Kara puts her success down to identifying a new product and quickly promoting it, initially to local restaurants and then further afield, effectively creating her own niche market.

6b. Location

'It's all about location, location, location', as the saying goes, and to a degree it held true in my study of successful diversifications; proximity to markets and customers did give a competitive advantage.

Aberdeen is a booming oil city on the North East Coast of Scotland. In the oil and gas industry the jobs are plentiful and well-paid. Unemployment in the city runs at just 2% (*Guardian Newspaper*), Aberdeen also has the highest Gross Domestic Product (GDP) per capita in the UK, outside central London, and contributes 25% of the total UK Corporation Tax receipts. I was intrigued to know whether local farmers were managing to 'get any crumbs off the table'. (*Source: Guardian Newspaper, 18th June 2014*)

I visited Ian Campbell on his farm near Kinellar, about 10 miles from Aberdeen. The farm is traditional mixed cropping, but Ian had established three diversifications to boost the farm income.

Firstly, during the winter months, farm staff are kept busy making up to 35 snowploughs a year in the farm workshop. The ploughs are sold via Ian's own website and distributed across the UK.

Secondly, Ian runs a plant hire business offering 360° excavators, dumpers, rollers etc for hire, with or without drivers. When the farm workload allows, he contracts to do small to medium size groundwork jobs.

However, it was Ian's third diversification that really brought home to me the value of being well located. On-farm commercial lets are nothing new any longer in the UK, and there cannot be many farms who don't let a shed to a mechanic or store a caravan for someone. On our farm we have offices, warehouses and workshops we let. However that didn't stop me being really surprised by what Ian, due to his location, was managing to achieve in terms of rental income. Typically his rental income per square foot was 50% more than we could achieve in the affluent South-East of England and, rather tellingly, nearly all his tenants were involved in the oil and gas industry and included steel fabricators, engineers, electricians and a generator hire firm.

When I asked Ian to what degree he felt location had contributed to his success, he replied "Well, put it this way, I have another farm 20 miles away due west from here (away from Aberdeen), and I cannot let a building there for any money".

Whilst considering location as an advantage for certain diversifications, before I started my Nuffield studies I had naively thought only in terms of proximity to towns, cities and the general population.



However, whilst visiting Kangaroo Island, off the coast of South Australia, I realised that this need not necessarily be the case.

Kangaroo Island is 96 miles long and between 35 and 56 miles wide. At the closest point it is 8.5 miles from the mainland and 70 miles from Adelaide. The island is served by a single ferry operation, and also by a small commercial airport, and it is the access - or the proximity - to this airport that has allowed agribusiness diversification to flourish.

Zach Trethewey runs Kangaroo Island Freshwater Crayfish, a large scale marron (freshwater crayfish) farm with 25Ha of open ponds, producing up to 10t of crayfish, a crustacean, per annum, making the business one of the largest producers in Australia. The marron market is lucrative and expanding, and with marron typically retailing at \$40AUD per kg, it is seen as a more affordable option to lobster.

The marron are sold at between 150g and 400g in weight and leave the farm live in polystyrene foam boxes filled with ice. They are then air freighted across to the mainland to ensure maximum freshness and to enable deliveries to be made within 12-24 hours, which I was told was simply not possible with road and ferry transport.



Figure 15: Live marron being packaged on ice for dispatch to the mainland



6c. Early adopters

An 'early adopter' is an early customer, or an early entrant in to a new market. The term originates from Everett M. Rogers's "Diffusion of Innovations" (1962). The premise was that the early entrants to a new market get to secure their position, fully benefit from any market growth and reap the highest rewards. It is illustrated by way of the Rogers Bell Curve.

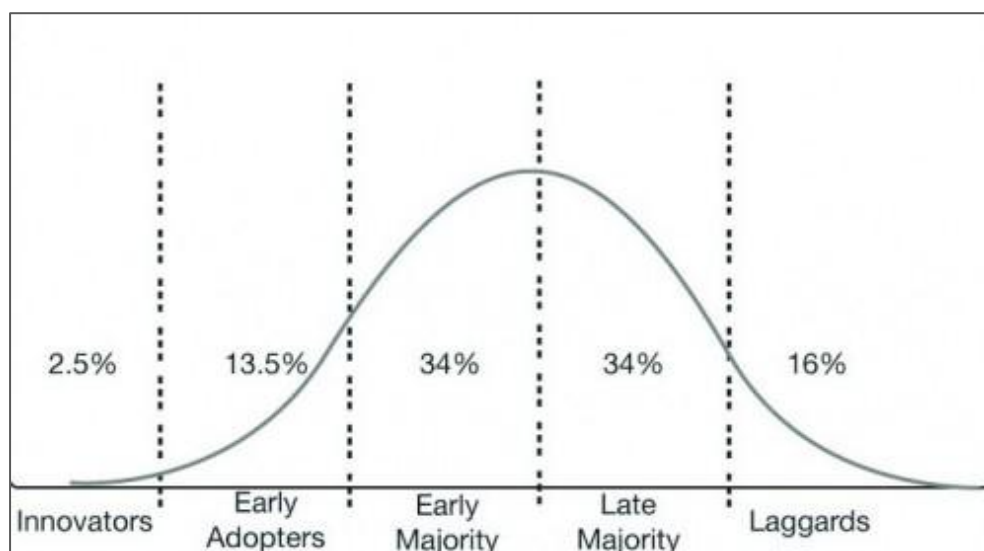


Figure 16: Rogers Bell Curve

Source: 'Innovation and Early Adopters – Beyond the Bell Curve'

The model seemed to represent well what I observed in one or two farm businesses that had diversified, entering into a new market at either the 'innovators', or 'early adopters' stage.

The demand for organic food is on the rise in the United Arab Emirates (UAE), as consumers are increasingly placing more value on products that are good for their health and the environment. Sales of organic food in the UAE reached \$16.3 million in 2013, and are forecast to grow by 31% to top \$21.1 million by 2018 (*Euromonitor International*). "With generally increasing awareness about healthy eating and food quality, more middle class consumers are discovering organic products for the first time" says Fatemah Sharif, research analyst at Euromonitor International.

About 30km east of Abu Dhabi, I met Julian van der Nat, project manager at Al Rawafed Organic Farm. Other than the scorching tarmac road, the farm is the only development in the desert here. At present the farm is 53 Ha, 6 Ha of which are glasshouse. Farming here is only made possible by intensive irrigation; the water used comes from expensive desalination plants. The soil looks just like neat sand and needs to be fed well with organic composts.

However, Julian is currently supervising a huge expansion of the current business to capitalise on the growth of the organic food sector. A further 300 Ha of the surrounding desert scrub has just been cleared, and the installation of the irrigation system is underway.

Typically the areas targeted for clearance are the slightly higher areas of dunes, to avoid the low-lying saltpans. Another 700-800 Ha of clearance is planned in the near future.

See photo Al Rawafed Organic Farm overleaf

London 40 miles: farm business diversification near cities .. by Andrew Janaway
A Nuffield Farming Scholarships Trust report .. generously sponsored by The John Oldacre Foundation



Figure 17: Examining soil structure at Al Rawafed Organic Farm

Using desalinated water for irrigation over such a large area is clearly not sustainable, and Julian tells me that the plan is to pipe and recycle ‘grey water’ from Abu Dhabi. The huge infrastructure costs of such a project are being partially met by government funding.

The cropping will be a mix of vegetables (lettuces, greens, peppers and some root crops), fruit (lemons, limes, bananas, figs, pomegranates, mangoes etc) and organic eggs. The fruit, I am told, will represent the only fruit commercially grown in the UAE.

In the short term, the majority of the produce will be sold to existing customers such as RIPE, an organic box delivery scheme, Etihad Airways and Carrefour. Julian tells me that, as the new production comes online, they will seek to target more airlines that use Abu Dhabi as a hub.

In the medium term, Julian would like to see more produce retailed directly to households. *“We want to make it more of a community thing to do”, he says, “At the moment we’re talking with our retail customers like RIPE and Etihad, to find out what their customers want. We also want to follow something they do in the US, by having ‘housewife days’, or ‘market days’, where people come directly to us to see where the produce is grown and get their fruit and vegetables at better prices”.*

6d. Co-operation

During my study, I found that farmers who diversify, typically act unilaterally, and don’t seek to co-operate with anyone in their new enterprise.



However, in Australia, I found a very successful exception to this rule-of-thumb, where farmers had come together, diversified into 'agri-tourism', and were promoting, value-adding and retailing their produce too.

Hawkesbury Harvest is a community association formed in 2000 by local farmers and people interested in food issues in Sydney. It represents an area about 1 hour's drive from Sydney, and essentially encompasses the Hawkesbury River basin from its source in the Blue Mountains, to the coast just north of the city. The area is typified by numerous small orchards on the valley sides and broader based agriculture on the valley floor. With the assistance of the local, state and federal funding, the Hawkesbury Harvest Community Association created the first 'Farm Gate Trail' in Australia, *'to improve access to fresh food for consumers and direct sales from farms'*. The trail is carefully laid out in maps available online and in the region's Tourist Offices. The maps highlight the location, and type of business, of the various Hawkesbury Harvest members en-route. These can be really quite diverse and include oyster farmers, artists, crafts people, wineries, restaurants and, of course, countless fruit farmers. I observed that the fruit farmers particularly had used the Trail as a vehicle for further diversifications, and had opened tea rooms, farm museums and campsites too.



Figure 18: One of the many farmer-owned stop offs along the Hawkesbury Trail

Farmers were also seeking to 'Value-add' to their produce, with nearly all of them operating a small retail facility where you could buy every type of apple derivative you could imagine.

The Hawkesbury Harvest Association has not stood still since developing the Trail though, and has established Farmers Markets, Open Farm Days and encouraged speciality food production. I thoroughly enjoyed the trail and thought it was a superb example of farmer's co-operation with a view to raising everybody's income.

6e. Low capital requirement

Investors use the financial ratio 'Return on Capital Employed' (ROCE) to measure profitability and the efficiency with which capital is employed. (see overleaf)

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$$\text{ROCE} = \text{Net profit before Interest + Taxes (NPIT)} / \text{Total Capital Employment (TCE)}$$

ROCE is calculated by Net Profit before Interest and Taxes (NPIT) divided by Total Capital Employed (TCE) multiplied by 100 to give a percentage figure. I was mindful of this performance indicator during my Nuffield Farming visits and, when I could, tried to get an idea of the start-up costs a diversification incurred.

In Pennsylvania I visited Lauxmont Farms, a three-generation family owned estate owned by the Kohr family since 1973. The estate is situated in a stunning location amongst rolling hills, high above the Susquehanna River.

Originally the Kohrs' chief income stream from the estate was from cattle breeding on the organic grassland that makes up the majority of the farmland. In later years, horse livery had become the main enterprise, with a specialism in the keeping of polo ponies during the off-season.

However, when the Kohrs took on the Lauxmont Estate, they also inherited some very unique buildings that the former owners had commissioned the famous New York architects Delano and Aldrich to design and build. Chief among them was a spectacular circular building called the Rotunda with 360° views of the surrounding countryside.



Figure 19: 'The Rotunda' at Lauxmont Estate

The Kohrs have used their existing resources, namely the buildings, and their great location (New York City 3 hours, Philadelphia 1¾ hours, Pittsburgh 1½ hours) to now market the estate as a wedding venue. Their capital outlay has been minimal; the car parks are in paddocks otherwise used for grazing and the horse-mounted car park attendants are grooms for the rest of the week.

There has been no significant investment in the venues themselves with caterers expected to bring their own mobile kitchens, refrigerators etc.



In total the Lauxmont estate now offers four separate venues, and can simultaneously host four separate weddings on its 700 acres. I thought the Kohr family's diversification was a great example of a new enterprise being allowed to grow organically with expansion being funded purely from cash flow. As a side note it was also nice to see such amazing buildings being used and paying for their up-keep.

During my study, I found that farmers who diversify, typically act unilaterally, and don't seek to co-operate with anyone in their new enterprise.



Figure 20: Stunning views from the Rotunda of the Susquehanna River, PN, USA



7. Conclusions

1. Income from commodity production is erratic and it is difficult to grow a business.
2. “If you do what you’ve always done, you’ll get what you’ve always got” *Henry Ford (1863-1947), Founder of Ford Motor Company.*
3. Diversification can be a very useful strategy for business growth.
4. ‘Sweat the assets’.
5. Know your market and your customer, be aware of new markets and trends and the lifecycle of your product.
6. Don’t fear urban encroachment, view it a market to be tapped.
7. Diversification success is measured by return on capital. Aim to maximise income and minimise capital expenditure.
8. Government funding and other supports measures have an important role to play in the establishment and success of business diversification.



8. Recommendations

For Farmers

1. Think about your business and your assets – are you maximising returns, don't be afraid to seek advice.
2. Analyse your strengths: skills, location, resources.
3. Consider a diversification to spread risk, increase financial performance and stability.
4. Seek to co-operate, share costs, expertise and morale.
5. Be aware of the world outside of farming and agriculture; what are the new trends? Can you capitalise on them?

For policy makers

6. Increase funding to aid diversification by way of increased grants and tax relief on capital expenditure.
7. Implement a national scheme particular to agriculture offering free or subsidised business planning and technical advice.
8. Control land price inflation by making the owning of agricultural land less lucrative to those not directly involved in agriculture by tightening tax relief schemes.



9. What next?

My Nuffield year has been a great opportunity to travel the world and meet some very interesting and inspirational people. The time away has also allowed me to reflect on my own business.

I have returned home more determined than ever to try and make ourselves less reliant on an income from commodity production.

As a result of seeing microgreens being grown in California, I have been experimenting and trying to grow them in the UK with varying degrees of success. I have approached the owners of an organic box delivery scheme who would be keen to include them in their boxes if I can produce sufficient volumes. I have also visited Borough Market in London and had a preliminary chat with the market manager about retailing some microgreens there.

I have registered the farm with an events company and seeded some areas for car parking. We are now scheduled to hold our first adventure cross-country event here (think Tough Mudder) in the autumn.

Commodity prices have slumped considerably in the 6 months since I have returned from Australia, so much so that we have decided not to even tender for a share farming agreement on a local 1500 acre estate. Instead we are going to use the capital we would have to spend on additional machinery to convert some redundant buildings on the farm to offices with 3 out of the 4 already let.

Moving forward on a more personal level, music and open-air festivals have always been a passion of mine. Taking into account the successes of those I met on my Nuffield Farming travels and the enthusiasm I have to fulfil an ongoing interest of mine, I plan to explore the possibility of hosting such an event on the farm.

Andrew Janaway

*I have returned home more
determined than ever to try and
make ourselves less reliant on an
income from commodity production.*



10. Executive summary

Income from commodity production in the United Kingdom has fallen by 26% in real terms since I joined our family business in 1995. Typically UK farmers would try and mitigate the vagaries of commodity prices and grow their business by expanding their acreage, thereby benefiting from economies of scale. However the national average of farmland prices in the UK has risen by 212% in the last 10 years, and 16% in the last 12 months, while some commodities have seen double-digit falls over the same period.

However, this does not tell the whole story. Farmland in areas such as ours, just 40 miles from central London, trades at almost a 60% premium to the national average. Physical expansion is no longer the strategy for business growth it once was. We should be seeking to maximise returns from our existing asset base or, in business parlance, 'sweating the assets'.

The primary goal of my report is to look at farm business diversifications with a bias to studying those that occur near urban areas where agribusiness has capitalised on its location and local market. I wanted to look at which businesses diversified and whether they did so out of choice or necessity. I was also very interested to see what new enterprises had been chosen, and whether they would be viable in the UK. Furthermore, of course, I was interested in the profitability of any diversifications; what were the critical factors that helped any particular diversification succeed?

The main driver for agribusiness diversification is to improve financial performance and stability, with a desire to change lifestyle or pursue a passion being a secondary stimulus. I came across a good number of businesses that had diversified and were making the most of their location. This turned out to be not just those near urban areas but also where farmers were adjacent to good communication links, such as airports, and existing successful industry sectors.

Success I found to be variable, and could not always be judged by looking at the bottom line of the accounts. Individuals didn't always regard this as their ultimate focus: job satisfaction, time with family, and spreading risk were often stated as their performance indicators.

Where financial performance was considered, the key attributes I came across in businesses that had diversified successfully were: low initial capital outlay, early entrants in to a market, developing niche markets, co-operation with others and above all, passion.



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