



A Nuffield Farming Scholarships Trust
Report

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**Opportunities for farming businesses
in the produce sector : through
Provenance, Innovation and Brand Development**

Steven Jack

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NUFFIELD UK

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1. Executive Summary

Opportunities for farming businesses in the produce section: through provenance, innovation and brand development

I've been immersed in farming all my life, as a child on the family dairy farm in Aberdeenshire, and as an adult growing and packing potato and root crops on the Moray Coast in the North of Scotland.

Supplying increasingly demanding supermarket customers has led me to consider where opportunities will lie in the future for farmers aspiring to climb the food chain to get closer to the consumer.

Fortunate enough to be accepted for a Nuffield Scholarship, I was provided with an invaluable opportunity to temporarily and nervously step back from the business (for the first time!) allowing me to develop both personally and professionally, and hopefully then apply some of what I learnt to my business and to our sector of agriculture in general.

The first stage took all the 2011 new Scholars to the New Zealand International Scholars Conference in March which helped point the way forward.

Intent on seeking out farming businesses where provenance and brands had played a key role in their growth, my objectives were to uncover initiatives whether home grown, regional or national and to establish if success was influenced by these three areas or whether purchasing decisions were in fact driven by other factors. I also hoped to discover whether commodities could increase in value through successful branding or if this

could be achieved by a form of process or product innovation at farm level.

I travelled to Spain, Holland, China and USA and found a diverse range of businesses, products and methods supplying both mature and emerging marketplaces. I found creative producers everywhere regardless of scale. Evidence of clever use of provenance to connect or resonate with consumers came in many forms and at all levels from the coal face through regional to national.

Refreshingly, 'farmer owned brands' were prominent, particularly in the USA. Many focused on regional credentials, on sustainability and the environment. Those with a regional focus strongly associated local with freshness. Common to all my visits was the non-negotiable approach by producers and consumers to food hygiene. Seeing the long term damage sustained when brands or sectors become associated with food safety concerns was a sobering experience.

UK farmers often lack the means or the platform to take innovation beyond the farm gate. Some may not even consider this their territory in a retailer dominated marketplace. During my travels I discovered farm businesses engaging with the customer, be it at the local farmers' market, through creative brands, packaging formats or by embracing social media. In every case, they made these innovative approaches their territory.



Innovation is the hallmark of the successful small business in our industry and what's often termed 'continuous improvement' in other manufacturing sectors must also become the norm in the UK produce sector. Some genuine 'why didn't I think of that' moments were combined with a few 'that'll never work'

sentiments. I suspect a follow up trip may be necessary!

My own view on the opportunities and constraints for my business has been fundamentally revised following the re-boot that is Nuffield!



2. Personal Introduction

What is it about agriculture that fosters such enthusiasm to learn and such hunger for knowledge?

As a dairy farmer's son, growing up on the family farm in Aberdeenshire, I don't recall ever considering a career outwith agriculture. I was fascinated by the ever changing demands brought about by each new season. Perhaps the unique nature of farming, where we can draw a line under one cropping cycle or lactation and look to the next, provides an insight into our desire to compare notes in pursuit of continuous improvement. Add to the mix, a changing global marketplace and things become very interesting.

My own business focus in recent years has centred on the opportunities in agriculture for creative and innovative brands to capture provenance at a time when so little is understood about the origins of our food, yet when regional & local produce has such a receptive audience.

When I was young my father combined his farming life with running the family clothing retail business. This absorbed much of his time and he'd rely heavily on family and loyal staff whilst away from the farm.

Whilst I had little interest in the goings-on away from the farm, the retail scene did however offer a glimpse of a consumer-led business where constantly changing fashions necessitated an understanding of consumer behaviour and a willingness to re-invent with the national retail chains starting to impose themselves on the high street.

In 1988, I successfully completed a degree in Agriculture following four years at Aberdeen University. After this I spent a three year period working for an Agricultural Consultancy combining farm business projections with milk quota trading - an interesting mix of strategic business planning and crystal ball gazing. This early period of my career provided invaluable experience through exposure to farm businesses seeking support during a period of change. I was inspired by those that most embraced change and were not constrained by what had gone before.

Milk quota trading both fascinated and infuriated me. At this time - during the early 90s - I often wondered how producers could survive in a milk market, over-reliant on static liquid sales, with a focus on production control measures at the expense of product innovation. How could businesses grow and become more efficient faced with quota values in excess of £5000 per cow?

Buying, selling & leasing quota did however show me that opportunities in agriculture could even be born out of ill conceived legislation and like many others, dairy economics and unsustainably high quota values were to spell the end for the family herd and it was dispersed in 1999.

I joined a specialist seed potato grower in Morayshire in 1992 and spent 10 years developing relatively untried field based mini tuber and micro plant growing systems which have since become standard throughout the potato industry, delivering dramatic gains in seed quality and production cost. During this time, the



business also sought to supply seed for the emerging organic market and the mini tuber system provided a niche opportunity to market a higher health product.

A management buyout preceded a wider focus for the business which has grown and supplied both potatoes and organic carrots to the UK retail sector from our Inverness-shire base since 2001, and high grade seed potatoes to the processing sector throughout Europe.

During this period, per capita spending on food in the UK has risen by less than 2% per annum. However, increasingly as consumers we buy our food in a more ready to eat or ready to cook form, effectively outsourcing the cooking from the kitchen to the food industry. For some, cooking's for special occasions only. For farmers, clearly a changing landscape.....



In a salad potato field at home on the Moray Firth



3. Background to the Study

I can remember being encouraged to 'Buy British' ever since the Austin Allegro rolled off British Leyland production lines in the early 1970s. An IGD report published in 2005 entitled 'Connecting Consumers with Farming and Farm Produce' encouragingly established however that this may not be the first image that springs to mind with the majority of consumers and that people generally have positive opinions towards where their food comes from.

It did caution that despite active selection towards provenance by certain consumer segments, the majority of consumers are largely neutral and need better reasons than a union jack hiding behind a red tractor to buy British, or a local farmer's face on a bag of carrots to opt for regional produce. Seasonality, heritage, countryside and health all resonate with consumers to varying degrees but increasingly the daily demands on our time and our spending constraints dominate choices.

My own experience as a grower and supplier to the retail sector has seen initiatives launched often with some success but each demonstrated the constant need for 'newness' - particularly challenging with a commodity product.

Farming's all about improvisation, thinking on your feet and making best use of what's already there whether it's land, labour, machinery or knowledge. Could this also apply to making best use of what's already there in the marketplace? A receptive but largely disengaged consumer with a positive outlook on provenance suggests so.

The Nuffield Farming Scholarship Trust provided a means to explore this. Excited and fortunate to be awarded a scholarship, I looked forward to exploring agriculture, meeting farmers embracing the marketplace and studying how farmer owned brands had fared in the food industry since the onset of the financial crisis in 2008.

The recently published Foresight Report served as the launch pad for my Nuffield experience and important lesson number one was: Broaden your horizons! A fascinating insight into the combined effects of climate change, global population growth and impending scarcity of natural resources, it also led me to question what contribution a small scale Northern European grower could make to avert the looming 'perfect storm'?

- Could a strong farmer-owned brand foster greater resonance with consumers and possibly play a role in the big picture by challenging behaviour towards purchasing more regional, seasonal and sustainably produced food?
- How best to capture the provenance and health aspects of our product, our growing system, and our wider regional identity?

Whilst agriculture has faced many challenges over the years, that of our generation is to embrace the changes across the food chain that will confront these global issues.



4. Study Tour

As outlined earlier, my Scholarship provided an opportunity to visit countries with both mature and developing economies. I considered that China's dramatically changing circumstances and the newfound wealth of its inhabitants, would offer an insight into the role of brands and provenance in the produce sector. I also wanted to discover how agriculture had fared in meeting the demands of a growing population with newfound spending power, and how it had coped with the exodus from the traditional land-based lifestyle.

USA is the home of some of the largest brands in the food industry. I decided to focus on two distinct and diverse regions in America and visited Pennsylvania and California. Focusing on 'farmer owned brands' I was interested in how farming businesses sought to attract consumers to their products.

Whilst China and America were to be the main focus of my travels, I also visited Spain and Holland to examine how the fast changing dynamics in our industry were impacting on similar businesses closer to home.



5. China

China's 1.35 billion population has experienced dramatic change over recent years. Since 1978, rapid urbanisation has seen an increase from 18% to 51% in the share of the population living in towns and cities. From what we saw, the Chinese state building programme was evidence of a determined effort to remain ahead of the game in accommodating the growing urban population and providing the infrastructure to underpin China's economic growth.

China's economy at \$7.4 trillion GDP is a distant second to the USA at \$15 trillion. Per capita GDPs are between \$5000 and \$8,000, still relatively low in comparison to the UK's \$40,000. However the country's rapid rate of growth through industrialisation has drastically changed lifestyles and consumer habits. Interestingly, the Chinese have so far avoided the reckless spending behaviour of the West with households on average saving 25% of income. Whether this can be sustained with higher disposable incomes and an increasing appetite for readily available consumer goods will go some way to shaping China's future economic health.

5a. Beijing

Travelling to Beijing in February 2011 to meet up with a small group of Nuffield adventurers, I hoped a policy of strength in numbers might prove to be a shrewd move. Arriving at Dong Fang Gong Xiao Hotel in central Beijing, I was intrigued to find that this loosely translated as 'The Pleasure Palace' with rooms available for stays of as little as an hour. Sensibly we opted for the standard tenure and set about planning our stay.

I was immediately struck by the vibrancy of China's second largest city with a population in excess of 22 million, and its frenetic construction activity both above and below ground. High rise apartments under construction dominated the horizon and there was little evidence of an economic slowdown following China's double digit growth over the last decade. In 2011, China's economy grew by 9.2% despite a state effort to apply the brakes and avoid overheating. High speed road and rail links cut through urban and rural landscapes and throughout the city, there was also much ongoing investment in underground rail infrastructure, Beijing's most popular mode of transport where over 8 million trips per day are taken.

Our first day, a Sunday, provided an opportunity to visit some retail stores. A vast range of leafy green vegetables provided a glimpse of traditional eating habits. Meals have historically been vegetable based with meat added to season the dish. Recent consumer wealth has begun to change these habits and whilst much of the produce and meats were still displayed in loose form, there were many familiar western brands to be found particularly in the dairy section. Organics featured prominently and often with little or no price premium. During the forthcoming visits I hoped to find out why this should be so.

Later, with a broken exhaust on our minibus a visit to the Great Wall of China some 40 miles north of Beijing seemed considerably further than that! The carbon monoxide-rich environment was of some concern although the driver appeared oblivious to our coughing and blue lips! Despite this, the visit was a true Nuffield highlight!



During our few days in Beijing, we were invited to meet with a group of young professionals who'd undertaken to set up a farmers' market focusing on local produce from handpicked suppliers. Concerned with a lack of traceability or controls over inputs, this group had heard via social media of our visit to a nearby CSA farm and intriguingly took the opportunity to ask for some advice on marketing, pricing and supplier criteria. It became clear that the issues concerning western consumers were shared here, yet refreshingly so; this group had undertaken to create a model to address the issues and were intent on selling their produce at a premium to reflect their values.

The meeting demonstrated that provenance and integrity played a meaningful role at least in this age and social group and underlined social media's increasing role in this young and vibrant marketplace. *See photos on page 10.*

5a(i). Beijing University of Agriculture

Food safety issues have proven potential to destroy consumer confidence plus the credibility of sections of agriculture overnight. Recent high profile cases of food safety related illness or death had brought unwanted headlines in all the countries I'd visited on my Nuffield travels.

The milk contamination scandal of 2008 brought worldwide attention to China's food producers. Over 300,000 infants were affected by milk contaminated with the industrial chemical melamine and a number of babies died from their illnesses. Egg products were also found to have traces of the contaminant and Chinese state media were forced to admit

that melamine had routinely been added to livestock feed.

Product recalls were extended from milk to all Chinese made food products and a number of executives of the firms involved were imprisoned or executed.

Our visit to Beijing University revealed how food safety had since become an area in which research was prioritised. China's focus had predominantly been production driven and, given population growth and consumption trends, this remains a key focus. However it was reassuring that environmental pollution through mis-use of fertilisers and pesticides was openly regarded as a major research objective.

One display during the visit stated '*Control and solving the high quality and ecological safety of horticultural products is the only way to make our people healthy, gain credibility and competitiveness in the global market, and achieve the sustainable development of agriculture*'.

Credibility became a recurring theme during the trip and proved insightful in underlining the importance of trust in successful brands.

5b. Wuhan University of Agriculture - Hubei Province

Wuhan City, the largest city in central China with a population of 10 million, plays a key role as a major transportation hub and lies at the intersection of the Yangtze and Han rivers.

We travelled to Wuhan University of Agriculture and met with Dr Liu Qing, who specialised in mechanisation and karaoke! Along with Beijing and Shanghai, Wuhan is



one of China's three scientific educational centres.

53,000 students housed in a purpose built village on campus typified the Chinese approach to preparing their country to meet the challenge of feeding tomorrow's population. Principle to this challenge is encouraging the younger generation to take up a career in agriculture where currently the average age exceeds sixty.

Dr Liu provided an interesting argument against a western style farming model, making the case for the family based productive and efficient farming unit supported by a state funded extension system. It was clear that China wished to slow the recent rate of urbanisation and such a policy was difficult to counter. Despite this, an average farm size of less than one hectare, and no right to land ownership appeared to offer little opportunity for efficiency and growth.

Before leaving, Dr Liu recommended a visit to the campus masseur and, on presenting ourselves for treatment, it became clear just how thorough the ancient art of Chinese Medicine was. I managed to establish that 5 years of training were necessary to inflict such misery and left hoping my scars would take a little sooner to recede!

5b(i) Xi'an City - Shaanxi Province

Arriving at Xi'an's new Airport, in the north western province of Shaanxi, there's little evidence of the city's culturally rich history. The city of 8 million has developed rapidly in recent years but had long since outgrown the striking city walls built around 3 BC.



The ancient art of Chinese Medicine - practised on me!

Located 30 minutes east of Xi'an is the Terracotta Army and we enjoyed a fascinating visit to the spectacular collection of terracotta sculptures depicting the armies of the first Emperor of China. Buried with the emperor, with the purpose of protection during the afterlife, it's estimated that there are over 8,000 soldiers and 500 horses. Their existence was discovered as recently as 1976 by a farmer searching for a drain!

5b(ii) Yangling - Northwest Agricultural and Forestry University

A 3 hour road trip to Yangling and introduction to Professor Jianbin Zhou led to a possible explanation for an earlier question I'd posed. I was surprised by the lack of organic premium in vegetables on



sale at a Beijing retail store. Professor Jianbin's explanation of an extension project aided by the UK government provided an insight into practical farming issues in China.

Both through ignorance and inability to accurately apply, local farmers are often unaware they're overusing pesticides and fertilisers. Understanding of the economic and environmental impact is also limited and the results are needlessly high production costs, product pesticide residues and polluted water courses.

The China-UK Sustainable Agriculture Innovation Network (SAIN) set out in 2007 to support the extension process and provide the means for farmers to determine the nutrient requirements of crops via a simple testing kit. The Professor's comments alluded to a reluctance by the ageing farming population to embrace new guidelines and advice, citing also cultural and educational difficulties.

Our discussion underlined the environmental pollution issues undermining confidence in domestic produce brands and stimulating interest in local CSA projects and properly governed organics.

The China trip provided an opportunity to meet with many officials, growers and professionals across agriculture and education. These people showed a quiet determination and strong work ethic to bring about changes in agriculture to become more productive and competitive. An impressive resolve to equip the country for the production challenges of the future through education was combined with a realisation that environmental controls would also be increasingly important in achieving these objectives.

Somewhat reassured, although concerned at the scale of the change required, I left China in preparation for a trip to USA, hoping at some time in the future to revisit and travel more widely through this vast country.



Beijing supermarket



A moment's light reading - with fellow Nuffield Scholars on the Great Wall of China



6. Pennsylvania State, USA

Known as the 'keystone state' and located in the centre of the original group of 13 states, Pennsylvania has a rich heritage. Having played a key role in economic, social and political development of the USA, the keystone symbolises the central stone in an arch which holds all others in place.

Three of American's most treasured documents have their origins in PA - the US Constitution, The Declaration of Independence and the Gettysburg Address, President Abraham Lincoln's historic speech during the American Civil War, heralding the rise of the federal union following the Battle of Gettysburg.

PA's GDP of \$570 billion ranks the state as USA's 6th largest and international comparison would see it ranked 18th largest in the world. A largely rural state, with a population of 12.7 million, insurance and banking have replaced coal and steel as the largest sectors in its economy in recent years.

PA's agriculture comprises 63,000 farm businesses and in excess of 7.7 million acres through its 67 counties. Agriculture and associated agribusiness together contribute \$57 billion to the state's economy. PA is the largest mushroom producer, 2nd largest in apples and third in Christmas trees in the US. With annual rainfall ranging from 35 to 45 inches through the state, 70% of agricultural output is forage and livestock based, predominantly dairy and with a significant poultry sector.

Six states neighbour PA with a combined population in excess of 64 million. Two of these, New Jersey and New York, rank as the USA's most densely populated,

demonstrating the scale of Pennsylvania's regional marketplace.

6a. Pennsylvania Department of Agriculture

On the first day of my PA trip, in June 2012, I met Michael Pechart and Lela Reichart who outlined the objectives of the PA Department of Agriculture. These are to encourage, protect and promote agriculture and related industries whilst also providing inspection services for the state's health and financial security. The main vehicle for this is Pennsylvania's state marketing programme, PA Preferred.

PA Preferred was introduced in 2004 with the aim of creating a platform to identify, promote and celebrate produce locally grown and processed in PA. An instantly recognisable brand, PA Preferred links agricultural and forestry products under a familiar logo encouraging people to make a positive choice in favour of local produce.

A voluntary scheme, licensees span the food and forestry sector from primary producer, through processor, retailer and food service suppliers.

The programme harnesses state and federal food safety protocols, good agricultural practices, and - for processors - good management practices, HACCP plans, self and 3rd party auditing.

Interestingly, the PA Preferred keystone logo highlights the role of the state's rich heritage in connecting consumers with PA's farmers. With the various food



production attributes meaning more to some customer groups than others, it's interesting to note that this brand's strategy is not solely reliant on product attributes and features PA's local history to good effect.

In describing aspirations for PA Preferred, Mike Pechart cited the successful California State 'Happy Cows' marketing campaign, using a tongue in cheek series of cartoon like TV commercials to catapult the brand into the USA's national conscience and demonstrating the power of humour in reaching those for whom state or country of origin means little, yet an association with California's beach and surf lifestyle clearly does. This is an interesting angle on how provenance can be made to resonate even with consumers somewhat remote from the product's origin.

Lela cited a striking statistic underlining the opportunity to increase sales of regional produce stating that 93% of Pennsylvanians had been found to want to purchase locally produced grocery items.

PA Preferred serves as an established working example of how existing UK food safety accreditation schemes could be harnessed to underpin a new regional marketing model. Rolling out the model across other regions would provide the consumer with a familiar concept highlighting provenance whilst also embracing other aspects unique to particular areas. Imposition of additional layers of management and food safety controls often associated with new retailer brands could be avoided by innovative packaging of existing recognisable standards into regional or national brands.

One of the main reasons I chose to visit Pennsylvania was to visit farming and farmer owned organisations outwith root vegetables and potato production. Why? Mainly to unearth transferrable innovation and provenance in farmer owned brands elsewhere. Unlike the UK retail sector, supermarket own brands, whilst readily available, do not dominate the marketplace. Farmer owned brands appear therefore to have a greater degree of control over strategy and product development.

As with the UK, the environment, sustainable practices and addressing consumer health concerns feature prominently in US food brands. Arguably, USA's litigation culture has elevated awareness of food safety and growers, in recent years, have gone to enormous lengths to implement safety measures.



PA Preferred's logo

6b. Knouse Foods, Peach Glen, PA

Apple production's second only to mushrooms in PA and, at Knouse Foods, I found an established and specialist co-operative formed in 1949 and owned by its 150 farmer growers. Randy Culp, Operations Manager at Peach Glen,



explained that apples, cherries and peaches are grown locally and processed in five sites around PA for sale as canned and bottled pie fillings, juices, sauces and baby foods.

Key to success appeared to be ability to utilise all grades of raw material. During my visit, cherries harvested earlier in the morning were being unloaded into 500kg bins, immediately submerged in hydro cooled water & ice and fed into the factory intake within 24 hours. Graded and destoned, the cherries were semi cooked & canned following the addition of a pie fill sauce mix. Even the cherry stones weren't wasted and were sold as a rich energy source following drying.

Following unseasonably late frosts in many counties of PA during late spring the harvesting and processing season had been cut short from usual 3 months to 6 weeks with significant losses.

Apples were housed in large scale cold stores and processed throughout the remainder of the year. With retail brands Apple Time, Lucky Leaf, Musselman's, Lincoln, and Speas Farm, Knouse Foods packed, canned and bottled applesauce, juice, cider, vinegar, apple butter, pie fillings, and snack packs, all of which were sold through national retailers.

In addition, however, supplying foodservice operators with bulk apple and other fruit products showed how Knouse Foods targeted different sectors with each of their various brands. A feature of the business was their collaborative approach to innovation with others adding further value in the sector and also offering co-packing services. I was to find many examples where farmers sought to add value through understanding other sector

brands and combining with industry customers.

6c. Furman Foods, Northumberland, PA.

Based in Central Pennsylvania, and founded in 1921 by J W Furman, Furman Foods is a privately owned fourth generation farming business. Specialising in field grown tomatoes, the riverbed silt soils along the Susquehanna Valley are rich and fertile.

The 100 day field stage from transplant to maturity is managed by Furman's Director of Ag, Ken Martin. Complementing the tomato crop and Furman's many canned tomato products are farm grown butter beans and kidney beans, chick peas and corn.

A completely integrated family business, Furmans grow, process, can, market and distribute their products throughout the Eastern Seaboard.



Ken Martin of Furman Foods

The brand gained an 'o' to become 'Furmano's' in the late 1960s. Marketing whole tomatoes during this period, it



became clear that Italian descendants on the eastern seaboard preferred to buy tomatoes in wooden crates and, having made the switch from cardboard, the Furman brand still found it faced fierce competition from supplier brands of Italian origin.

With the majority of canned tomato and bean products geared towards pasta and pizza sauces and ingredients, this serves as a useful lesson in understanding and tailoring a brand for specific customer groups. Hence Furman's became Furmano's and the focus towards the Italian origin of pasta remains on the can with the colours of the nation's flag, albeit with a 90 degree twist!



Joined up brands



The Italian connection

The 30 month shelf life of the canned tomato product and 42 months for beans, mean these products offer both versatility and convenience. Recent initiatives have sought to portray the products in a more natural light with the replacement of manufactured sodium rich salt in favour of lower sodium sea salt and also the addition of Omega-3 fatty acids. Omega 3 has been shown to support heart health, brain and eye function and development. Further, all products' gluten free status is given greater prominence on the can to acknowledge a growing awareness of this property.

Furman's Marketing VP, Lori Merman, cited these examples (Omega 3 and sea salt) as part of the changes being made in pursuit of 'good fits' for the products' various customer segments. She explained also that the 'family tradition' message, plus the distinctive yellow can, have provided continuity throughout the years since JW Furman arrived in Northumberland PA in 1921.

6d. Stermam Masser Potato Growers

Based near Sacramento in the Dutch Pennsylvania region of the Hegins and Lykens Valleys, Stermam Masser Potato Farms are an eighth generation family business. I met CEO Keith Masser who heads the business with son David and daughter Julie, packing in excess of 100,000 tonnes per year and farming potatoes in rotation with cereals, corn and forage crops. The business had grown rapidly during recent years through innovative product ideas and several clever brands, all fresh and ready to cook, but focusing on specific purposes.



Fresh potatoes are marketed to both retail and food service sectors throughout the heavily populated eastern seaboard states and Keith cited their proximity to these markets as the main competitive advantage over larger potato producing states further west.

I found a business cleverly adapting brands to suit the season and the sector. 'Grillables' were foil wrapped individually and targeted toward the summer barbeque season with bright and colourful packaging and clearly geared towards convenience. 'Steamables' likewise had been created with this in mind as a washed, microwavable pack ready to eat in 8 minutes. Bakeables require little explanation but again provided a point of difference despite using standard russet varieties, with individual plastic wrapping for easy microwave baking in 17 minutes. Each of these sub brands operated within the Masser 'Blue Denim' headline brand conveying the versatility and every day application for the potato.

Keith Masser had been also a leading advocate of an industry wide initiative by the US Potato Board to add value in the US fresh potato sector through brand development. In 2009, the USBP launched a campaign: 'Potatoes...Goodness Unearthed', designing and market testing a brand logo and packaging artwork for use throughout the industry and supported by online marketing, nutritional advice and recipes.

The eye catching artwork and packaging provided growers with a means to market and professionally promote fresh potatoes regardless of scale and I departed encouraged that this offered a blueprint for a UK equivalent which could easily be enhanced to incorporate a regional focus.



Goodness unearthed



Blue Denim- every day versatility

6e. UTZ Crisps, Hanover

Chuck Tullis, UTZ Crisps's Executive VP, met me at one of their four facilities in the town of Hanover in southern PA.

Twenty two truckloads of potatoes per day and over 150,000 tonnes per year seemed a sizeable throughput for what he described as a premium brand niche business. Despite a Pennsylvanian heritage of 90 years, UTZ source potatoes at various times of the year, from 10 eastern US states in addition to PA, and from as far afield as Canada for long term storage.

With over 600 products, this production site operated 19 hours per day generating 15,000 lbs. per hour of potato chips which



is roughly equivalent to 20,000 packs! (Yes, I've re-checked this several times).

I spent only 45 minutes with Chuck, yet found our brief discussion to be the most insightful on my travels to date. Somewhat distant from a typical farm based business, UTZ had obviously worked hard to incorporate their local, fresh and sustainable credentials into the brand.

Chuck's key points on developing a farmer owned brand:

- Have Fun!
- Don't get too corporate or stuffy
- Don't over-stretch
- Remember that 70-80% of purchases are impulse driven
- Define what sets you apart
- Don't underestimate value of creative & exciting packaging formats.
- Re-align the brand over time as it matures and the market changes.

Following several days in PA it struck me that a number of features were common to the most dynamic farm based businesses too. Most striking was the productive mood amongst people within these businesses and a seamless sales and marketing and production focus.

Clearly, great emphasis had been placed on product innovation, brand and packaging design. It was also fascinating that these business leaders went out of their way to interact with their own staff throughout the process - whether with a wave or a brief exchange - and rarely breaking stride in passing! Commenting on this whilst walking through the production process at UTZ, it was clear that the UTZ heritage and values were important and that a continuous

improvement ethos had been created through a collective pride in the business.

I've since established a number of lean manufacturing programmes in my small business and these have at times created interesting and unexpected challenges which I'll expand on later in this report!



Another grilling favourite

6f. Phillips Mushroom Farms, Kennett Square, Chester County, PA

I met John Molin on a gloriously warm Friday afternoon in late June. This was not the climate I'd associated with this crop and I found the brief history that led to PA becoming the largest US mushroom supplier (or Mushroom Capitol of the World!), quite fascinating.

Historically horse manure was the medium used to grow mushrooms and considerable volumes were generated pre-motor car in the densely populated cities of New York, Washington and Philadelphia. Fresh carnations were commercially grown in the early 1900s by Chester County's Quaker community and manure, shipped by train, was traded for flower production and for mushrooms which were often grown beneath the carnation benches. I suspect few more



novel examples of companion cropping have been unearthed in the course of Nuffield travels!

Innovation has been at the heart of this family business since William Phillips created an ice cooled ventilation system in 1921 to grow mushrooms year round. White button mushrooms, the industry standard, were grown, packed and distributed in increasing scale until 1980, when Phillips became the first US indoor growers of the niche 'shiitake' mushrooms. Further speciality varieties followed and, by 1993, Phillips had withdrawn completely from the white button commodity mushroom which dominates the US market.

I found much evidence of the investment in product differentiation during a tour of the packing facility at Kennett Square. John explained that China had become the main threat to domestic suppliers and the speciality products had distanced Phillips from price poor commodity lines.

Higher value lines had also been created with a multitude of fresh and frozen cheese and sauce filled mushrooms ready to cook in sliced or whole form. An appropriately named 'wild bunch' pack appeared to contain a mix of various randomly sliced varieties suggesting little was wasted.

Despite a speciality focus, the Phillips business had invested heavily in automated growing facilities to become a business of impressive scale, yet its heritage and diversity were clearly key to maintaining a clear point of difference in a commodity dominated sector.

See picture of John Molin top right.



John Molin with a tray of Phillips' mushrooms

6g. Andrew Frankenfield, Penn State Agriculture Extension Officer Montgomery County, PA.

I spent a day with Andrew visiting a number of diverse local producers focused on bringing their farming businesses direct to customers in Montgomery County, a rural suburban area within commuting distance of Philadelphia.

It became clear from these visits how direct access to farms provided depth to great regional produce. From the florist and market gardener whose advice on caring for plants was as sought after as his produce, to the dairy farmer and ice cream producer who'd gone to great lengths to cater for school parties visiting his farm (and could quote the height of the wash hand basins in the local MacDonalds!), I could see that for some there's no substitute for face to face contact or a local familiar food brand name.

Despite the modest scale of the operations I was fortunate to visit, innovation and investment featured prominently. I visited a small scale hydroponic lettuce grower who'd installed a waste wood burner for winter heating



and solar panels to power the refrigerated polytunnel air wall.

The benefits of showcasing our produce in an on-farm store or at an annual food fair are often as powerful as a well constructed website or a digital age social media presence. My impression on leaving Montgomery County was that the food industry's rush to embrace all the tools of

the 21st century digital era have actually created opportunities for small farming enterprises to capture the consumers for whom 'small is beautiful' and as my parents often argue, mobile phones are best kept switched off to save the battery. Many, however, cleverly incorporate elements of both eras and are able to adapt and change the product mix at will.



7. California

Known as 'the salad bowl of the world', Monterey County leads the state of California in 10 agricultural commodities. In order of scale, these are lettuce, strawberries, broccoli, celery, cauliflower, salad greens, spinach, mushrooms, cabbage and artichokes. Monterey County's also a major wine grape growing region.

The region benefits from a cool coastal breeze, an average July high of 23°C and average January low of 4°C. Rainfall's 16 inches with 264 sunny days against a US average of 205.

In 2011, 305,636 acres of field production grossed \$3,254 billion in sales, a healthy average of \$10,646 per acre demonstrating the intensity of the county's farming. Since 1990, when 204,111 acres grossed \$1,868,292,000, production area has increased by 49.7% and gross sales by a consumer price index-adjusted 74.2%.

Monterey County, 90 miles south of San Francisco, is approximately 130 miles long and 30 miles wide. The Salinas Valley bisects the county and is 10 miles wide. The River Salinas provides a groundwater irrigation source and at 155 miles long is the longest submerged river in USA.

7a. Tanimura & Antle

Nuffield Scholars have a number of things in common other than an extremely supportive family and dangerously high stress levels during report writing. Many will cite factors such as a thirst for knowledge and shared passion for our industry. Whilst I agree wholeheartedly with all of these, what I think we can

relate to most are the days on our travels when nothing goes to plan. I may, however, have a head start here in that few of my days at home tend to either!

It was on one of these days when I was fortunate enough to stumble across a fascinating business success story in the Salinas Valley in Monterey County. Having deliberately stayed away from root veg production earlier during my US trip, a pre-planned visit to a large carrot grower had frustratingly fallen through.

A friendly blacksmith in a roadside farm repair workshop - or 'smiddy' where I come from - recommended I pay a visit to a lettuce grower 5 miles down the valley on the edge of Salinas. As I approached I thought I'd mistakenly taken a wrong turn into an exclusive Donald Trump inspired Golf Resort.

Tanimura & Antle are a third generation farming business growing on a scale hard to imagine. A stunning HQ at the foot of the Santa Lucia Mountains, the offices were a few hundred yards from a vast hydro cooling and warehousing complex into which a steady flow of trucks brought field packed lettuce for cooling & subsequent despatch and distribution overnight.

Farming 20,000 acres of land, two crops per year of lettuce are grown and therefore the scale alone would present the severest challenge to most. Brian Antle is one of a number of family members from the youngest of the three generations remarkably all still actively involved in the business.

Fortunate to spend an afternoon with Brian, it became clear that this was a



farming business operating in an extremely competitive marketplace yet with innovation and heritage at the heart of its strategy. Similarly to earlier visits, a great deal of warmth and camaraderie was shown by Brian towards his staff and I greatly enjoyed our tour of harvesting operations during the somewhat opportunistic visit. Harvest crews were largely Mexican, most were on piece work and as a result, extremely productive.

The Tanimura family, as first generation Japanese-Americans, built a successful iceberg lettuce business in the 1920s. During WWII, the family were interned in Japanese camps and lost everything. In 1947, the Tanimuras bought 20 acres in Aromas, California, growing green onions and iceberg lettuce, continuing to expand by acquiring further ranch leases.

The Antles started out as lettuce packers in 1930 opening their own operation in 1942 as WWII provided them with a new marketplace supplying lettuce to the military services. After the war years and despite continued hostility towards Japanese-Americans, both families courageously forged close ties which eventually led to business collaboration and an industry leading position in US lettuce production.

As we toured the farming and warehousing activities, Brian openly shared their values and vision. Service, quality, food safety and investment in technology were key components and innovation had been instrumental in business growth in recent years.

As an example, several lettuce varieties had been selected for taste and maturity and their ownership secured to create an artisan product of four distinctive lettuce types all field packed together in one



Tanimura & Antles' HQ



Tanimura & Antles' Artisan mixed lettuce



Tanimura & Antles' mixed lettuce pack

pack. Eight rows per two metre raised bed (2 x 4 varieties) were required to reach optimum harvest stage and weight simultaneously and this had clearly involved much development and trialling.

This innovative niche product in its distinctive clam shell pack format provided a strong point of difference yet



complemented their many commodity lines which included iceberg lettuce, romaine, cauliflower, broccoli and celery.

Another fascinating aspect of the business was its approach to cater for the seasonal constraints posed by Salinas Valley's climate. Despite its mild year round temperatures and uniform productive soils, the area was not suited to year round lettuce growing. T&A therefore farmed April to November in Salinas and for the winter period re-located all farming operations 14 hours south to Yuma close to the Arizona-Mexico border.

Yuma, on the Sonora desert, has an annual rainfall of 3 inches, an average winter high of 21 degrees centigrade and the highest sun hours anywhere in the USA. Irrigated via the Colorado River, Yuma's known not surprisingly as the 'winter lettuce capital of the world'!

An enormously complex operation, this involves annual transport of 250 truckloads of field rigs, vehicles and hydro coolers not to mention skilled staff, and would require to be operational within 48 hours again to maintain supply. It was a useful lesson in challenging and looking beyond the boundaries within which we as farmers tend to operate and an example of a customer focused farming business seeking to supply an international marketplace year round.

Tellingly, as we left T&A's headquarters and I wished Brian well, his final comment invoked the spirit that had clearly brought together this partnership some 70 years earlier. 'Everyone walks in the front door' he said, summing up how important the people within the business were to its enduring success. A true Nuffield moment!

7b. Taylor Farms, Salinas CA

I realised as soon as introductions had been made that I'd come across a real character in John 'Jocko' Krbecek! Wondering if, as 'Plant Engineer', Jocko's interest would extend much beyond the factory floor, I soon learned another valuable Nuffield lesson, and what lay behind the title were 20 years of experience across growing, procurement, sales and marketing. The engineering division was clearly just another essential component and our tour through one of 3 huge packing plants in Salinas demonstrated his passion for the entire process.



Taylor Farms - no sign of a farm gate anywhere



Jocko Krbecek of Taylor Farms

Prior to donning the PPE (personal protective equipment) for the tour, Jocko wanted to understand the UK produce sector and our small business set up in Inverness. Fully two hours later and



having almost given up hope of the tour, we'd exhaustively discussed and challenged our own business plans and projects with much useful advice on strategy from Jocko.

A relatively young company, Taylor Farms started in 1995 and has rapidly grown to become one of USA's leading salad supply businesses. A diverse fresh cut vegetable and salad growing firm, with seven US sites and also an operation in Mexico, Taylor Farms has a retail division and value added Deli and Foodservice divisions.

Under retail, the 12 month supply calendar for conventional salads details Taylor Farms' California-dominated production areas, but these were supported out of season from a number of other US states and increasingly Mexico. Lower labour costs and a less regulated seasonal labour pool have attracted a growing number of US produce businesses into Mexico.

Touring one of the 3 sites together packing produce of 3000 acres per week, it was clear that product innovation required an ability to frequently re-design product lines and many pack house machines had again been manufactured on wheels with mobility in mind. Whilst the earlier visit to T&A had opened my eyes to a completely mobile farming business, Taylor Farms had strategically built a business with regional production centres throughout the US.

One of my key questions on setting off to USA had been '*Does processing - in a bid to add value - obscure the product's provenance?*' Jocko's advice however proved enlightening and he challenged that a business, by partnering its own processed products with others from

different sectors within a region, could actually enhance its regional provenance. At this point I became somewhat distracted in an attempt to partner root vegetables with Single Malt Whiskey, and whilst this is likely to challenge me for some time yet, it's another example perhaps of utilising what's already out there!

In summary, following my visit, the Taylor Farms retail division ably demonstrated a fundamental difference in the makeup of the US fresh produce industry where farming businesses often retain their identity through strong brands from soil to shelf.

The joined up supply chain model evident from my visits in California was clearly aided by scale but from what I could see, there was little evidence of the friction often apparent in the UK with retailer, processor and grower/producer maintaining an arm's length relationship.

The Deli division provided a useful indication of the direction in which the US grocery sector has moved in recent years. **Healthy, convenient snacks combining fruit, vegetables, protein and dip accompaniments, require a more collaborative approach to product development but provide another example of a perceived boundary which the UK farming sector should not be afraid to challenge.**

As a means to put further distance between vegetable produce and price-poor commodities, the US marketplace has embraced vegetable snacks to an extent that they're no longer niche. Food service is often a last ditch destination for UK produce and to date there are few examples where brands and provenance combine to strengthen value. Perhaps a



similar approach with partnered regional sourcing could provide the breakthrough?

7c. Carrot growing, Bakersfield, CA.

Located approximately four hours south of Monterey County, Bakersfield is a major city on the San Joaquin Valley in Kern County, California. Kern County is the most productive oil county in the States and fourth most productive in agriculture, featuring almonds, pistachios, milk and vegetable production as the main farming activities.

Two of the world's largest carrot growing businesses are based in the Bakersfield area and together are responsible for some 80% of US carrot production and employ in excess of 5500 staff in the region.

The US carrot sector is dominated by emperor type varieties which are categorised by their long thin pencil shape and feature a very narrow core. Use of these varieties transformed the US carrot sector some 20 years ago when an innovative carrot grower trialled a new 'cut and peel' processing technique. Subsequent popularity of the format saw carrot consumption move from a staple cooking 'cello' type to this convenient and healthy snacking alternative to the many junk food choices. Overall consumption increased dramatically with this breakthrough as consumers had begun also to eat carrots between meal times.

Over 40 brands of baby carrots are sold in the USA today. The baby carrots, or 'minis', are actually a two inch cut, polished and rounded in tightly sized bands. I was interested to find how an innovative 1990s product had fared during

recent years particularly since the global financial crisis hit in 2008.

I'd first visited Bakersfield in 2007 and, on my recent visit, many new fresh vegetable snack products had appeared on the shelves. These new healthy snack alternatives may partially explain a sustained and dramatic drop off in 'mini' carrot sales. However, I suspect that the product also lacked excitement in recent years and may have been overlooked by consumers as a result.

The financial crisis may have exacerbated this but a surprising lack of any newness was apparent amidst many other more recent and exciting options - many combining a range of bite size cut vegetables with dips, meats and cheese segments.

7d. Nunhems Seeds

Surrounded by 'nodding donkey' oil wells, I met Paul Bender of Nunhems Seeds at one of the firm's carrot field trials sites together with Daniel Fanucchi of Grimmway Farms.

Nunhems Seeds, a division of Bayer Crop Science, globally supply 2,500 varieties of seed in 28 crops. Paul's task is to manage surely two of the largest accounts around! In his own words, he considered the time was right for 'the next breakthrough'. Quite a tall order given the transformation of the carrot sector following introduction of the snacking emperor varieties some twenty years earlier! In a fiercely competitive marketplace, the supply base had since been rationalised to essentially two main players and, since 2009, 'mini' or 'baby' carrot sales had declined by some 20%.

See photos of coloured carrot varieties on next page.



Nunhem Seeds – Purple Elite



Nunhem Seeds – Red Trial Variety



If you can't beat them – join them!



As in many vegetable categories, one or two varieties tend to dominate production. Sugarsnax and Honeysnax are both extremely versatile and proven varieties. Popular with growers, the slim and uniform roots enable good utilisation (or recovery) through the cut'n peel factory process. Sugar or 'brix' levels remain consistently high throughout the year.

Nunhems had been trialling several coloured imperator varieties to determine their suitability for mini carrots and whether bolting would occur at different latitudes. Light levels, temperature and day length are the determining factors and it is hoped that the rejuvenation of the healthy snacking mini carrot may be stimulated by introduction of some of these colours.



Baby snacking carrots



Grimmway's harvesting team

7e. Grimmway Farms

Daniel co-ordinated Grimmway's carrot grower operations. Having visited the Grimmway factory on my previous trip, I wanted to investigate how the farming operation was structured and how these principles impacted on the product and the brand.

Processing 40,000 of California's 75,000 carrot acres, Grimmway grow about 40% of the conventional carrots they pack. The key decisions on the remainder of the acreage are also managed centrally by Grimmway to ensure best possible outcome and no surprises along the way.

Their integrated model again demonstrates the importance of a 'ground up' focus to even the largest businesses in the US produce industry. Ability to control key decisions such as site selection, the most beneficial crop rotation or most productive machinery, was clearly strategically important to Grimmway maintaining a competitive advantage over others.

We were fortunate to visit the trial field on a day when a harvesting 'team' was working nearby. Two self-propelled harvesters had been working on the laser-levelled carrot field since 7am. Upon our arrival at 11am, over 500 tonnes of imperator carrots destined for cut and peel had been lifted, and the uniformity and quality of the crop demonstrated more than anything said, that the strategy had delivered both on product and productivity.

Interestingly, this strategy had also served Grimmway's organic growing business, Cal-Organic, well. Farming 26,000 acres and over 50 different organic vegetable products, Grimmway are farming on a



huge scale yet their integrated approach and control over rotation, nutrition and field tasks has elevated the Cal-Organic business to a position of dominance in little over 10 years since its purchase as a small scale brand in 2001. The ability to select the best sites, adopt long term measures to improve fertility and weed control resonated with my own experiences since my own modest step into the business – which had also taken place in 2001.

I left Bakersfield emboldened that our own microscopic scale 'ground up' approach in the north of Scotland was in keeping with a policy which had stood a US produce giant well and my visit showed how even the largest agricultural businesses, with all their process and brand expertise, are built on sound farming principles and often used these to provide depth to their brand values. Emphasis of the farming connection serves to re-enforce Grimmway's care and commitment towards freshness and food safety.

7f. Baby Carrot Marketing Initiatives

A generic marketing campaign to re-vitalise the baby carrot sector was launched in 2010 when Bolthouse Farms, the other major player in the sector, appointed an agency to create the initiative to address a sustained fall in sales since the onset of the financial crisis.

I was fascinated by Bolthouse's bold decision to launch a generic campaign. Clearly, this would potentially benefit not only Bolthouse sales, but those of others too. Whether the strategy had been intended to encourage other participants

was unclear but the approach taken was both innovative and risky.

A lesson in understanding the target audience, the approach taken was to engage with the 'junk food' culture of the USA and particularly its youth. Acknowledging that baby carrots possess many junk food characteristics (dippable and versatile), a junk food style advertising campaign was designed. Small portion packs in crisp bag type packaging, cartoon characters and teen-style TV advert stunts combined with initiatives to sell packs in school vending machines.

By deliberately avoiding focus on healthy aspects, the rationale was to avoid re-iterating what the consumer already knew in favour of embracing the junk food culture and providing parents with an exciting lunch box option or between meal snacks that just happened to be healthy.

Whilst it's been difficult to determine its overall level of success, the campaign initially did raise sales nationally by 10-20%. Interestingly, some major producers did not support the campaign and one can only wonder what might have been had they done so.

The 'what happened next' question will be interesting as re-positioning the baby carrot snack has opened the door for more junk food style experimentation possibly in the form of potato chip style flavours, colours or even shapes. Only in America! Or maybe not?

Key to continued success will be how these businesses seek to maintain the consumer's connection with the products' healthy & natural origins particularly with added flavours or new shapes.



8. Europe

My study has focused largely on 'farmer owned brands' and innovation in USA agriculture. I did, however want to devote some time to Europe and my own sector and paid brief visits to Spain and Holland.

8a. Naturgads, Cadiz, Spain

Visiting an organic carrot grower and exporter, Naturgads in the Cadiz region of southern Spain, I sought to establish the role of both provenance and the brand in their export focused business supplying a marketplace that was still enjoying strong growth in mainland Europe.

During the last decade, Spain's been the source of early new season carrots for the European market between the months of April and July. A less costly alternative to Israel, the other main exporter during this period, Spanish growers have enjoyed a position of dominance for much of the last decade.

Rising fuel costs and the geographical remoteness from the marketplace have more recently undermined early carrot growers' competitiveness. French and Dutch growers closer to the main population centres have embraced new techniques, using crop covers, seed priming and earlier maturing varieties.

Interestingly cost savings and an increasing focus on the big sustainability picture through regional credentials have attracted organic root vegetable retail suppliers from central and northern Europe to these new early season growers in southern France and Holland.

Antonio Rodriguez has grown carrots for over 40 years. Spending time with this experienced and professional carrot grower with over 300 hectares, and clear that the marketplace had moved on, I hoped to find some evidence this business had the appetite to address the regional challenges imposed by its location. Antonio communicated through a translator and hadn't visited UK nor European customers for some time.

Having visited a lettuce farming business, T&A in Salinas CA, I'd seen a firm which had looked beyond its own farm gate to address a similar challenge and it was clear the foresight witnessed in California would be well served here.



Early season carrots at Naturgads, Spain

8b. The Netherlands

In Holland, a country with similar climate and consumers to Scotland, I felt root crop suppliers were likely to have much in common with our own sector. I was encouraged to find however, that the mini carrot product I'd seen in California clearly had a following in a region not too dissimilar to the UK.



The UK's reliance on field storage of root crops under straw exposes growers to costly inputs and relatively high risks. Straw prices fluctuate with the fortunes of the livestock and cereal markets, and field quality determined by overwintering conditions prevents growers from forming an accurate picture of pre-pack saleable tonnages. Maintaining one eye on winter weather, and particularly temperature forecasts with such investment at stake, is not for the faint hearted.

In Holland, cold and boxed storage of carrots destined for the cut and peel market provided a much more appropriate match of storage system with product format. I'd also seen evidence in California of the cut and peel or 'mini' format breaking into the snack or 'junk food' sector. Could this opportunity exist in the UK?

Peter Matthijssen, a young specialist carrot grower/packer in the polder region

of Holland, has developed an export focused business combining cold storage with the cut and peel process. I could see his business had not merely replicated the products we'd seen in the USA but created new shapes which he hopes will cross over from produce sector to snacks. Trials again including new coloured varieties suggested an exciting future for the snack format.



Creative snacking formats



9. Comment and Conclusions

1. 'Everyone comes in the front door'

During my travels, I rarely came across a business strong in brand and product innovation yet weak in respect of managing people.

I met many farmers who'd refused to respect traditional farm gate boundaries. Some had followed the path of change started by previous generations whilst others had enacted more rapid change but all shared similar values and vision.

Productive and innovative operators generally considered their staff worthy of the highest recognition for their achievements. Through a business wide 'continuous improvement' focus, those employed and involved clearly understood and took pride in their roles and responsibilities. Improvements, fine tuning and 'newness' flowed from all parts of these businesses. The evidence for this appeared in the form of innovative products, creative brands and their imaginative associations.

2. Understanding Integrity

Creative brands provide a great platform for exciting fresh produce products in the right format. However, the 'ground up' message conveyed by 'farmer owned brands' adds a valuable dimension in trust and integrity.

During my travels I found farming businesses co-operating to monitor and evaluate how their farming practices impacted on essential ground water reserves. Nitrate pollution controls and sustainable extraction practices underpin integrity. Damaging food safety scares impact on the entire sector and usually the regional source, confirming that provenance plays an important role in consumer behaviour regardless of the circumstances.

Where some saw food safety measures and controls as obstacles, others saw opportunities. In the USA, a farming business had set up a division specialising in manufacture of food hygiene testing and monitoring equipment. The key driver had been recognition of the importance of maintaining consumer trust in the industry rather than just the individual supplier. This served as another insightful example of individual farming businesses confronting the challenges outwith the farm gate not only to strengthen their brand reputation but that of the sector and the region.

3. Regional Initiatives

PA Preferred provided a blue print for a coordinated regional marketing campaign. Further, this initiative spanned all sectors of agriculture and sought to embrace all areas of the food trade. Interestingly, PA forestry products were also included within the brand.



The brand not only undertook to stimulate consumption but to increase value by highlighting quality, freshness and trust. This ambitious programme demonstrated the role that can be played by a central organisation prepared to look beyond its administrative or legislative primary function capturing pride in a region's heritage and improving awareness of regional sourcing's impact on sustainability's 'big picture'.

In Beijing, we discovered that consumers share this common interest in provenance and sustainability. It was also clear that when it can't be found in the marketplace, groups will co-operate to create an integrated and transparent structure themselves regardless of the difficulties.

Within the UK, its constituent countries and their regions, there are farming and food businesses uniquely placed to develop brands that have genuine provenance, heritage and fascinating stories to tell.

4. Communication

We'd be forgiven for thinking social media's a 21st Century phenomenon. Yet cave markings dating from 5,000 BC, demonstrate that hunters, gatherers, farmers - or whatever we wish to call ourselves - have historically found various means to celebrate our wares.

For today's farmers, if they're anything like me, checking the online weather forecast is a challenge but social media provides small businesses with an accessible means to communicate with our customers and better understand their needs. Innovative communication techniques were commonplace during my study. From You Tube cookery and recipe demos to Facebook features and Twitter feeds, the subject would require a Nuffield Study on its own.

Embracing social media will enable small farming businesses to form an important part of a rapidly changing market place with online purchases, blogs and chatter playing an ever more central role in shaping the retail world.

Our retailers have long been heralded as low cost consumer champions. Farmer owned brands strong on heritage, provenance and sustainability can not only add value but force retailers to confront the cost at which they pursue their low cost agenda. Social media provides brands with a platform and a personality but also empowers consumers with a means to comment on and shape the food supply chain like never before. Recent milk price reduction reversals serve as clear evidence of the power an engaged consumer can wield over retailer behaviour.



10. Recommendations

- For the last twenty years the UK has been at the forefront of Quality Assurance and safety in the food Industry. Applying a regional focus to the red tractor scheme would re-invigorate and aid a wider understanding of its merits whilst serving also as a recognizable pointer to regional provenance.
- Farmer owned brands should seek to engage with consumers through associations with regional events or calendar occasions to demonstrate regional identity. In everyday commodity products like milk or vegetable produce, it's often difficult to maintain consumer interest. By linking these to regular regional events, local credentials can be emphasized and consumer interest in farmer owned brands, broadened beyond those most easily engaged.
- Partnering farmer owned brands across sectors, and even beyond agriculture, should be explored as creating such synergies can provide greater regional visibility and stronger heritage association.
- Between meal snacks offer an exciting and relatively untapped route to growth in the UK fresh produce sector. Consumers largely understand the 'healthy' message yet often choose more convenient and accessible junk food snacks. Vegetable growers should look to adding value through innovative concepts and formats and by exploiting transferrable junk food aspects to create fresh vegetable snack alternatives.
- Farmers looking to climb the food supply chain should develop brands as a means to preparing for a marketplace beyond the current price- and promotion-dominated retail landscape. Social media can bring to life these brands and highlight to consumers how a 'ground up' approach can make a valuable contribution to a sustainable farming future.
- Central to the challenges global agriculture faces are population growth, climate change and depletion of energy reserves. Farmer owned brands championing innovative, sustainable and regional produce can play an important role in tomorrow's agriculture but significantly may also provide the stimulus for the change in consumer behavior on which our food industry depends to become more in tune with these challenges.



11. Developments in my business through my Nuffield Scholarship

The Contemporary Scholars Conference in March 2011 seems a very long time ago. Returning from New Zealand charged with enthusiasm, I announced to our team that a productivity drive through Process Mapping and KPI* recording would deliver major cost savings and serve as a means for the business to not only cope but thrive in my absence. It was time to grow up!

Within two months of beginning the training programme and introducing the KPI measurements, our entire pack house management team had left the business. Failure to communicate a vision for the business under a new continuous improvement drive had been a schoolboy error. At this time, fitting in several weeks of Nuffield travel was the least of my problems and not exactly the type of Nuffield defining moment I'd hoped for!

**Key Performance Indicators*

Happily, however normal service was quickly resumed and a settled as well as a focused team was established from within the business. The lesson was a hard one but sharing business values and creating a strong bond with valued and resourceful employees has served the business well in the intervening period and many farming businesses I visited shared these principles.

I have found my Nuffield introduction to be an invigorating experience. In essence I hope I can summarise the journey clearly and with sufficient gratitude as follows: Nuffield has provided me with the means to not only more clearly see an opportunity but now, more importantly, to seize it! Fasten your seatbelts!

Steven Jack

Orcadia
Lochloy
Nairn
Inverness-shire
IV2 7XB

Tel : 01667 462 923 (office)
01667 454 939 (home)
Mob : 0044 7836 337 225
Email : steven@nessgro.co.uk



12. Acknowledgements

I've been immensely fortunate to have been given the opportunity to become a Nuffield Scholar. I'd therefore like to express my sincere thanks to all those who have made this possible:

The Nuffield Farming Scholarships Trust

In agriculture, there are many who live and breathe enthusiasm for their profession and way of life. The Nuffield Farming Scholarships Trust embodies such passion, and I thank the Trust for this opportunity to travel and experience this spirit around the world. I hope I can encourage others to take up the challenge in future and to share and benefit from the experience in the way I have done.

The MacRobert Trust

I am extremely grateful for the support of my sponsor, and wish to express my sincere thanks to The MacRobert Trust. I hope my experiences can provide some meaningful advice and direction to small businesses throughout agriculture as they adapt to a challenging and rapidly changing farming landscape.

My Hosts

During my study, I met many remarkable people prepared to share knowledge and experience amidst busy lives. A willingness to openly exchange ideas provided me with huge belief that the future of our industry is strong. During the course of my Nuffield travels, I also received guidance and advice from people I've yet to meet. Hopefully I'll rectify this over time! Thank you all.

OPG & NessGro

Our small team has embraced considerable change during my Nuffield study period and deserves praise for its enthusiasm and resolve. All have committed to developing personally and have contributed to a culture where we support each other and are confident enough to set challenging goals. To Peter Gresty, a good friend, fellow Nuffield Scholar, and source of encouragement and advice for many years, thank you for triggering my Nuffield adventure.

My Family

My wife, Kate, and our three children Harry, Abby and William have provided great encouragement to me throughout my study and travels and deserve big thanks for pulling me over the report writing finish line too. I promise not to take my laptop on holiday again! Finally, I would like to thank my parents for their support and guidance over the years as I've sought to forge my own career in agriculture.



Appendix - Visits

Where	Name	Business/Organisation
China	Peter Bloxham	PFB Associates
	Phil Inskip	AB Sugar, China
	Feiyan Xue	Beijing University of Agriculture
	Shen WuYi	Development and Reform Commission, Daxing District, Beijing
	Dr Liu Qing	Trifolio-M
	Dr Tong Yanan	North West A & F University, Yangling
	Prof. Jianbin Zhou	North West A & F University, Yangling
	Joy Zhang	Office of United Investment Promotion Commission, Beijing
	Maggie Hu	Office of United Investment Promotion Commission, Beijing
	Michael Zhang	Office of United Investment Promotion Commission, Beijing
	Long Baijin	Scottish Development International, Beijing
USA (PA)	J D Dunbar	CEO, PA Rural Leadership Program
	Tara Homan	PA Rural Leadership Program
	Joel Rotz	Director, State Government Relations, PA Farm Bureau
	Mike Pechart	Exec. Deputy Secretary, Pennsylvania Dept. of Agriculture
	Lela Reichart	Division Chief, Bureau of Market Development, PA Dept of Ag.
	Randy Culp	Knouse Foods, Peach Glen, PA
	Kenneth Martin	Director of Ag, Furmano Foods, Northumberland, PA
	Keith Masser	CEO, Sternam Masser Potato Farms, Sacramento, PA
	Andrew Frankenfield	Co-op Extension Officer, Montgomery County, PA
	Chuck Tullis	VP, Utz Brands, Hanover, PA
	Fritz Liversberger	Manager, Utz Quality Foods, Hanover, PA
	John Molin	Manager, Phillips Mushroom Farms, Kennet Square, PA
USA (CA)	Paul Bender	Manager, Nunhems Seeds, Bakersfield, CA
	Daniel Fanucchi	Grower Relations, Grimmway Farms, Bakersfield, CA
	Brian Antle	Director, Tanimura & Antle, Salinas, CA
	John 'Jocko' Krbecek	Plant Engineer, Taylor Farms, Salinas, CA
	Gurjit Shergill	VP, National Quality Systems, Taylor Farms, Salinas, CA
	Brandon Bayman	Merchandising Director, Bolthouse Farms, Bakersfield, CA
	Norm Groot	Monterey County Farm Bureau, Salinas, CA
Europe	Antonio Rodriguez	Naturgads, Cadiz, Spain
	Peter Matthijssen	Top Fresh, Zwartemeerweg 22, 8317 PB Kraggenburg, NL