



Nuffield Farming Scholarships Trust

A Merial and BPEX Award



The UK Pig Industry in 2020?

Helen Thoday

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Executive Summary

I wondered what the UK industry would look like in year 2020 and where, in the global pork supply picture, it would fit. In the last decade the industry has coped with disease, decline, unique legislation and assurance. The outcome has been polarised production systems, niche markets and an entrepreneurial attitude for those who remain, which makes it unique in the global pork market.

I travelled to the UK's biggest threats to pork production: Brazil, China and Thailand and also our closest neighbours: France and Ireland. One thing that struck me in all these countries was their flexibility to expand. Although the pork profit margins were still not high in a lot of countries the potential for growth was. Sensible choices on environmental legislation, welfare regulations and feeding options had been made by governments to benefit the pigs, the producers and the consumers.

The UK is a mature market and little can now be done to go back on the legislations that have already been passed so instead we need a stronger message about what we are doing that is different to the rest of the world. The Red Tractor is key here and more needs to be done to link the final product to the rural backdrop in which it is produced, as Brazil does, for example by placing red tractor logos on farm signs.

We should be concentrating on areas we can control and there are some areas that can be targeted such as reducing feed costs through alternative proteins. Although there are barriers to better pig prices from retail forces, we have shoppers who still care about where their food comes from. Words such as "local" and "high welfare" are still strong in a recession and we should be proud of that.

We do need support from government over planning, stall ban import restrictions and processed animal proteins but we can still do more on-farm to improve output. It is likely that there will be more turbulent times ahead; the last decade has led pig producers to adapt and survive. If some of my recommendations are followed we could easily change this to **adapt and thrive**.

1. My Subject and Personal Background

I left Harper Adams University College with an Honours Degree in Agriculture and Land & Farm Management. During my time at Harper I worked on all types of farm and land based businesses including sheep, dairy, pigs and forestry. After leaving college I worked as a quality control manager in the grain industry before joining PIC UK Ltd where I worked in all sections of the Artificial Insemination side of the business and developed an interest in the genetics side of the pig industry, seeing the obvious benefits genetics can make on farm, but more importantly helping the customers get more from the product. I enjoyed talking to them, and with many it was on a weekly basis.

For the last 5 years I have been working for the BPEX, a division of the Agricultural and Horticultural Development Board, as a Knowledge Transfer Manager for the South of England. I have been helping farmers become more profitable. This included the setting up of benchmarking groups, delivering training workshops, taking producers on study tours, on farm advice and setting up on farm trials to measure and monitor the effect of some of the changes made to the farm profitability.

I have also been a member of the two regional (animal) health improvement steering groups in the South of the England, namely non bovine TB groups and developing user friendly information for pig producers based on changes in legislation and assurance. I have also enjoyed working with the National Pig Association (NPA) specifically the Young NPA in the South and have organised trips to abattoirs, virtual farm tours and quiz evenings to bond the next generation of producers.

With both PIC and BPEX the opportunity for continued professional development was excellent. I have completed two Open University studies on Infectious Diseases and Animal Physiology and I also obtained a place on The Worshipful Company of Farmers, Rural Leadership Course in 2009 which led directly to my Nuffield Application.

When I started my study I had been working in the pig industry for 10 years, so I chose to explore how it may look 10 years further on. The UK Pig industry has a unique landscape. No



other industry has so many options for production; feed type, building, genetics, breeding herd accommodation and outlet choice. It is sometimes hard to find two independently owned units which are the same. By looking at global growth and shift in protein eating patterns, future animal feeding strategies and likely changes in legislation for pigs, is it possible to understand what the United Kingdom pig industry will look like in 2020?

Table 1 (*see foot of next page**) lists the top pork producing nations and shows total global pork production sitting at nearly 100 million tonnes per annum. Brazil, Russia and China are expanding their commodity pork markets rapidly and making huge investments. Russia's official policy is to be self sufficient in protein production which, looking at forecasts, is likely to be at 95% in 2020. The country has already invested £500 million in pork processing facilities to match this projected increased volume.

China is still the biggest pork producer and consumer, and food security for their expanding and already large population is always being strategized. China is constantly looking at increasing both home production and imports. Home production also involves huge imports of pig feed staples which are currently being stockpiled by China, affecting global prices and availability.

Brazil's 2011 production forecasts for exports and the country's recent changes (discussed later) makes Brazilian pig production very exciting at the moment.

More traditional markets of pork, such as America and Europe, are still important. Pork to China is America's seventh-largest export market and the European Union also relies on China to better the carcass balance (maximising saleable value from the carcass).

So could the expanding production in Asia and South America provide the Chinese with large volumes of pork at cheap prices? How would this affect American and European markets and where, by looking at all the facts above, does our small but passionate industry fit into future global pork production?

One thing that must be remembered is that "local" and "high animal welfare" are still, according to a IGD consumer study in 2010, top of shoppers' agendas. This is something UK pork can hang its hat on. But is this going to continue to be our market? Will it be our market in ten years' time? And how can we embrace all British pig production systems into shoppers' hearts and minds, to dissuade them from buying cheaper imported pork? Currently the cheap imports are produced under very different welfare standards but the gap is closing with the stall ban coming in 2013 and Holland and Denmark become closer to UK Legislation.

**Please see overleaf for table of Global Pork Production and Consumption – 2009*

2. Background to my Study

I wondered what the industry would look like in 2020 and where it would fit in the global pork supply picture. I wanted to use Nuffield as a learning experience. I spent a lot of time in my own job looking at production systems so I wanted to learn about global trade in the emerging pork producing nations and what effect that could have on UK pork elasticity.

I travelled to the UK's biggest threats: Brazil, China and Thailand and also our closest neighbours: France and Ireland. The global pork market has increased in the last decade (2000-10) mainly because of the less traditional pork producing countries such as Russia, Brazil and Thailand. The more traditional pork producing countries within the EU and also the US have suffered much volatility, leading to a small overall increase in total production.

Table 1. Global Pork Production and Consumption 2009, FAO.

Rank	Region	Metric tons (millions)	Per capita (kg)
1	People's Republic of China	52.5	40.0
2	EU25	20.1	43.9
3	United States	9.0	29.0
4	Russian Federation	2.6	18.1
5	Japan	2.5	19.8
	Others	12.2	N/A
	Total	98.9	

3. How the UK Industry has changed over the last decade (2000-10)

The UK national herd has shrunk by 37%. Numbers of sows recorded in 2010 were 440,000, down from 690,000 sows 10 years ago. The UK was slaughtering 12 million pigs per annum in 2000 compared to 9 million in 2010. Since 2000 the average carcass slaughter weight has increased by 5kg to 79kg.

The UK has become more productive, producing an extra 150kg of pig meat per sow per year but we still sit behind our European neighbours in terms of production. Volatile variable costs and high labour costs make the UK industry very vulnerable.

Major changes to the UK industry in the last decade include two Foot and Mouth outbreaks, a new animal wasting disease in the form of "PCV2", the fallout from a stall ban, two major feed price disasters and countless environmental legislations.

On my travels I learnt many things about the global state of food production, livestock production and, of course, pork production. The UK industry appears over detailed in terms of legislation, welfare, and environmental protection when compared with its weighting in UK agriculture, UK trade and global pork production.

In many circumstances it was difficult for me to explain and compare the UK pig industry to the countries I visited, due to the vast differences in attitudes to producing pork. There are different drivers to why certain countries are producing pork and their attitude to being in the business of food production. This became more evident as I travelled into poorer regions around the world and it was very challenging.

4. Pig Production in Thailand

- 5.5 million breeding sows (over 12 times more pigs than the UK).
- Pork is still only a small industry in comparison to neighbours such as China and Korea.
- 2010 export figures were 541 million tonnes. Nearly 70% would have ended up in China.
- Thai pig industry became increasingly commercialised in the 1980s.
- Concentrated in eastern and central regions, 40% of pigs around Bangkok.
- Labour is cheap and often imported from Cambodia and Burma at an average wage of £150/month.
- Foot and Mouth Disease is endemic.
- Globally significant exporter of cooked poultry.
- Cooked pork has export figures of 12,319 million tonnes in 2010.
- Unlike poultry, which has been dominated by large multi-national businesses, pigs have been mostly local, domestic-based expanding enterprises. Thailand has been able to meet its own pork requirements and exports a modest amount of frozen and boiled pork, although its pork industry has not been as internationally competitive.



Typical Crated Sow in Thailand with creep areas covered with feed sacks.

Most pigs in Thailand were traditionally raised by rice farmers to consume farm by-products and wastes and generate extra farm income. Along with buffalo, cattle and poultry, pig production was an important component in the small farm cropping system. Buffalo and cattle were used for carting and cultivation purposes whereas pigs and poultry were kept for consumption.

Commercial pig units were first set up in the early 1970s with imported genetics from the UK and the US. However the pig industry encountered several problems such as an unstable market price, high feed costs, government regulations and the monopolistic marketing system where “one buyer deals with many sellers”, similar to the UK. I visited commercial farms using standard European Genetics, with sows kept in standard hot weather units. Average herd size was about 500 sows and they were in very good physical condition, stall housed and farrowed in crates.

Feed was milled and mixed using mainly rice and cassava meal, soya and mono sodium glutamate type additives. In my view, in the rearing herds there was room for improvement in terms of health protocols that relied on using high levels of medication. Despite vaccination, disease was still obvious on the units. However in what would be referred to as barren environment there was very little vice exhibited by the animals.



Typical Pietrain type finishers with water wallows in concrete open sided pens.

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4a. What Thailand means to the UK Pig Industry

Currently Thailand is a huge exporter of poultry used in ready meals sold into the UK, predominantly through Tesco. The supply chains are currently in place and Thailand could add pork dishes to this range if the retailers demanded it. Pork production is increasing in Thailand, based on Chinese and tourist demands. This could open the way for export on more Western based cuts.

5. Pig Production in China

- Population of 1.3 billion people.
- Most popular food in the world? “it is whatever the Chinese are eating”. Prof David Hughes
- 48 million sows, 46.9% of the worlds’ total (FAO) (some 109 times larger than UK pig industry)
- 49,879 million tonnes of pork meat per annum (FAO)
- 2009 slaughterings were at 659 million, an increase of 30 million in 1 year.
- Forecast for 2015 consumption will be 91 million tonnes
- Consumption per capita varies depending on socio economic group, but averages around 36.1kg/person.
- 70 – 80% of pigs are still in back yard production.
- Many large pork exporters see China as their main market.
- Soya imports have risen from 2.5 million tonnes to 5 million, doubling in 3 years.
- The Chinese Government plans to move 2 million people from the rural areas into towns. They will consume large amounts of protein through meat purchases.



A typical pork seller at a wet market with the whole pig being available for purchase.

As we know, the Chinese population is huge, its ‘middle class’ population is expanding and its demand for fresh pork and different cuts is increasing at a dramatic rate.

In the rural areas, the wet markets (markets in which uncooked butchered meat and other food stuffs are available) were still the only trusted place to buy food.

Fridges are still thought of as unnecessary when wet markets can be visited twice a day, and “fresh is best” is the mantra of the rural populations; so much so that live animals are still widely traded in the markets so people can home-kill. Speaking to a fruit and vegetable import/export businessman, he said that it would take at least fifty years to shift to a predominantly supermarket retail-led nation.

I also visited supermarkets which had the same produce as the wet markets but wrapped in plastic. Even though the middle classes shop in a cleaner environment, the tradition still comes through. It was explained to me that, increasingly, city-based 'middle class' shoppers want to buy more packaged food as they believe it to be safer, so have totally stopped using wet markets.

A Meishan sow and litter on a rural farm in Guangdong region of South China.



I also visited small rural farms which housed around 100 sows. In my opinion many aspects of production and building infrastructure needed improving. However, the breed which is common place in China, the "Meishan", seemed to compensate for this lack of knowledge and facilities on farm. The Meishan's key feature is its ability to produce numerous offspring. These types of farm are commonplace throughout most of China. Added to which, 80% of Chinese people live in the countryside and would still purchase their pork from wet markets. So this type of unit is extremely important for supplying the vast majority of pork to the Chinese.

In my opinion, these small farming systems are sustainable, producing very little waste. With better understanding and government support, and with a bit more knowledge, they could become more efficient and could feed most of the population.

The investment seen in the Dairy and Pig sectors in China means a real opportunity for cross collaboration between these industries. The waste dairy products can be successfully utilised by the rapidly expanding pig industry.

5a. What China means to the UK Pig Industry

Currently, the UK exports offal to Asia and most of it ends up in the Chinese food chain. In the last three years this volume has grown from 27% to 40% of the total amount of Offal we export every year. This is critical to our carcass balance. The value of this export is also of course increasing, from 38% to 47% of the total value of the UK industry's income from all exported offal.

6. Pig Production in Brazil

- 2.4 million sows (a growth of 100,000 in six years).
- 52.8 million pigs slaughtered per annum (85kg deadweight).
- 70% of the pigs are based in three southern states.
- Production has risen from 19 pigs per sow per year to 22 pigs per sow per year (sold per year).
- Pork consumption per capita was only 13kg/head.
- Currently 10% of production is exported predominantly to Russia, China and the Ukraine.
- This export market is worth US\$1.4 billion.
- Pork is the fourth largest protein export.



Group Sow housing in Santa Catarina, South Brazil.

I visited the southern state of Santa Catarina. It has 386,000 sows, up by 26,000 (4.1 %) in six years. Traditional, back-yard production is decreasing, currently just 10%, while pigs produced from large commercial units are rising, up by 15 %.

Co-ops are very popular. I visited two, Coperdia, a business with 22,000 sows and Alfa which managed 40,000 sows. These are the two biggest co-ops, all feeding into the Aurora group which has its own pig slaughterhouse.

Alfa has community drive, with supermarkets, two feed mills and petrol stations. All co-ops have farmer shops where members can buy subsidised goods, from large farm sprayers to work wear and medicines.

Most farms supplying the co-ops are family owned and mixed, keeping dairy cows and beef cattle as well. Sow herd sizes ranged between 30 to 500 sows. Being part of the co-op the farmers are guaranteed finisher accommodation or slaughter contracts. There is not a single farrow to finish unit in the south. This creates a huge multi source problem, but they

manage it well and they have a very tight kill weight about + or - 2kg. In terms of a uniform product, this is near perfection.

Group sows and deep-bedded nursery and finishers are common in the region. Some pigs are kept on deep-bed of rice and cocoa husks, although many units still keep their animals on solid concrete floors. Pig diets are predominantly maize and soya, adding sugar and growth promoters. Nearly all the ingredients are sourced from Brazil and other parts of South America.

Farms close to new soya fields, or mixed farms with their own soya production, pay the lowest feed prices. Other farms pay prices similar to those in the UK as soya is a globally traded commodity. Most farms mill-mix; however a small revolution of liquid fed with co-products is evolving.

Pig macerator and composter prior to AD plant delivery in Matto Grosso, North Brazil.



I also travelled to Matto Grosso in the North. I visited an 11,000-sow unit spread across three sites. Around 20,000 slaughter pigs were produced per month. Waste was sent to an Anaerobic Digestion plant and carcass macerator to produce energy. Each site had a lorry and car wash and a full time vet. Environmental legislation in Brazil is strict as a result of the backlash against clearing pampas and rainforest. However, sense prevails with a more integrated and sustainable approach to waste management.

During my visit in 2010, the open market pig price was 0.539 to 0.629 Brazilian Real which is roughly £1.34–£1.57 per kg. Prices are region specific, I found. Although the feed price was similar to the UK's, the biggest difference in terms of cost of production is labour and energy price. However, in many parts of Brazil, particularly the southern region, producers have not made large profits because they are paid on feed conversion ratio rather than total kilos of pigmeat.

6a. What Brazil means to UK pig industry

Since I returned from Brazil, very exciting market shifts have taken place. Pig Meat in Brazil is currently at £1.75/kg due to social shifts in protein purchasing. Why?

Brazil is a traditional beef eating nation with the world's highest population of cattle at 170 million and more people are buying and eating beef as the country becomes more affluent.

What's more, land formerly used for beef production has been planted with soya for export. With fewer beef animals for slaughter and increased consumer demand, this has seen a big hike in beef prices.

Pork is becoming a very popular choice with lower income consumers. Brazil is a moderate exporter of pork and until now a low consumer of pork. Many farmers or business opportunists may therefore look to set up pig farms due to the current high prices being paid for pork. But where would this pork go?

Currently it will not come to the EU due to the restrictive import levies. It is likely in view of the current trade links with China that the Chinese would take most of the Brazilian export trade creating a knock-on effect. If Brazilian pork shifted away from Russia in particular, this could spell potential for EU countries, namely Denmark which would export to Russia, reducing the pressure of Danish imports into the UK.

America may need to consider changes in exports eventually, post 2020. American pork is unlikely to be exported to Russia and unable to be exported to the EU and, with the Chinese demand for pork, this trade route looks secured for the next 10 years.

7. The French Pig Industry

- 1.3 million sows.
- 78% of which are based in Northern France.
- Tough environmental legislation for large units.
- Hyper-prolificacy is common much like other EU countries.
- 90% of pigs are produced on Farrow to Finish units.
- The national herd has reduced by 3 – 5% mainly due to farms closing due to lack of succession.
- However financial support is available for new entrants.
- *A typical Brittany farm consists of pigs, arable and dairy. The average sow herd size is 210.*



Standard sow stalls in Brittany, France.

Livestock producers in France must obtain “Production Rights” and the authorities check the farm’s plans for profitability, environmental impact, locality and staff working conditions plus housing/floor type. When the farmers renew or invest they must get authorisation. When they want to change production systems they must submit a new authorisation due to Nitrogen excretion issues because of the density of pigs in Brittany. In addition, 400-sow plus units must have a manure treatment station (costing 5 – 15 Euros per cubic metre) and there is no financial support for this. However there was cheap finance for new entrants of which there have been 400 – 600 per year in Brittany.

Farm assurance is under the “Label Rouge” including welfare and environmental systems. One unit I visited fed co-products (bakery and dairy waste), 150 hectares of corn and wheat and the owner claimed he had always produced a profit. That said, nationally, low price and high input costs led to French slaughterings in 2010 hitting a five-year low of 22.8 million.



This graph illustrates the problems that French pig farmers, too, face for their products.

I attended "SPACE", an agricultural show in France, where French Pig Producers rioted, demanding better prices from their government. At that time, the producers were receiving 23% less than the cost of production as seen in the picture of the graph on the stand of the "farmers for action group". Riot Police were enlisted to help calm the groups whilst they targeted stands of trade body organisations and ripped them down in protest.

7a. What the French Pig Industry means to the UK

The French system and attitude is indicative of most of our EU competitors. The stall and tether ban coming in 2013 could be the key to the UK pig industry's future. The UK pig industry could be enormously helped if the UK government put effort into ring fencing export bans round countries who have not fully complied with the stall ban. Holland and Denmark are likely to fully comply as they need to keep their export status. However keeping other countries such as Spain, Poland and France from exporting to the UK could benefit the UK pig price.

8. So what has happened in the UK since I started my Nuffield Journey?

10 years is a long time in the current climate of global population rise, shifts in protein consumption and animal welfare magnitude. The UK Pig market has experienced a dramatic change in the 12 months of this study with unprecedented shifts from profit to loss. Changes in animal feed cost per tonne have shifted £45 in a fortnight, a rate of change which has never occurred before.

Changes in costs per tonne of wheat, soya and pig meat in 12 months

	April 2010	April 2011
Wheat £/t	200.50	95.00
Soya £/t	243.00	330.00
Pig Price ppkg	130.00	143.00

Source: BPEX Market Intelligence

Changes in costs per tonne of different pig feed categories in 12 months

Category	April 10	April 11
Weaner (15-30kg)	£210	£284
Grower (30-60kg)	£169	£244
Finisher (60kg +)	£151	£225
Dry Sow	£123	£200
Lactating Sow	£187	£266

Source : Baynes Nutrition

9. Welfare and the Future?

Fortunate coincidence or deliberate design?

The early adopters and innovators of the UK pig industry developed an outdoor pig production system. They could be modest and say they got lucky and matched consumer wants over the last 30 years. But throughout the last decade this system of production has come a long way from the original 2 litters per year and a “wild” type system. It is now a sophisticated production method utilising indoor concepts in an outdoor environment and this has been upheld by the supermarkets as producing a premium product.

The UK pig industry has gone above and beyond the legislation and assurance of most EU countries and sells itself on higher welfare. However, perversely, we are thanked for that by the extreme animal welfare lobby groups by being permanently used as an exposé and pressure point for even more gold plating and “extras”. The outdoor system is in no doubt that it has consumer appeal but the extreme welfare lobbyists only have one thing on their mind when it comes to indoor production and that is the Farrowing Crate. This is a method of containing the sow around farrowing and over lactation to try and prevent piglets from being crushed by the sow. The huge advances in group sow housing and manipulative materials for growing pigs have been forgotten and the hit the industry took to make that change quickly brushed aside.

Advances are currently being made in freedom farrowing, where the sow has the option to move freely in a small pen during farrowing and lactation, and there are a plethora of versions:

- the 360 crate developed by Midland Pigs
- a few producers designing and fitting their own freedom farrowing design
- and the Pig Safe project being carried out at SAC and Newcastle University.

Whatever individual thoughts producers have on Pig Safe it has raised the subject of freedom farrowing and maybe inspired others to carry out a “better job” and develop their own.

Freedom Foods state they have never had so many enquiries about freedom farrowing systems as they did in 2010. However for most farmers the feed price has put the brakes on that enthusiasm for now.

Welfare is a very emotive subject and is a Nuffield project on its own, but the industry must not be held to ransom and pushed down a route that may not lead to a premium.

10. Critical Mass is Critical

The UK herd is 440,000 breeding sows, a reduction from 690,000 10 years ago. If the UK loses another 200,000 breeding sows can the industry survive?

Whether the reduction is caused by the lack of efficiency by the indoor sector to compete with EU neighbours, the shutting down of crated farrowing by the welfare lobbyists, or the feed costs of outdoor sows, or the lack of foresight by land agents on big estates, if half the industry were left would that be enough for critical mass?

It is highly likely the national herd will become slightly smaller and more integrated and follow the route of the poultry industry. A strong supply chain is what we are always striving for but the supermarkets by and large only seem to want to include the outdoor sector in this. The development of a freedom crate may give some options but visually is it still what the consumer wants to see? And marketing is king.

Input companies could continue to supply integrated businesses with genetics and feed produced to order and veterinary supply and training would be set up within the integrators. In the next 10 years there will be a place in middle England for “food miles”, “local” and “organic” so any entrepreneur will be able, as an independent farmer, to set up his own small supply chain providing consumers who are prepared to pay more with a niche product that will undoubtedly cost more to produce.

11. What does the UK Industry think?

I took the opportunity in my role in BPEX to carry out a survey at the December 2010 Young National Pig Association (YNPA) meeting in London and at the joint Cornwall and Devon Pig Club in March 2011. These producers would be independent smaller producers compared with national averages and not involved in an integrated supply chain.

The results in full are in Appendix 1. However I have summarised below what the producers thought as a group, and also what the differences were from a group predominantly under 30 and a group predominantly over 30.

The YNPA members unanimously said they would be in the industry in 2020 and the vast majority of the Exeter Pig Club also stated they would be in pigs. Four people said they would not be in the industry but 3 of them said that was only because of their age.

The YNPA stated that the total industry would be bigger, the outdoor sector bigger and the indoor sector would be bigger or remain the same. This was the reverse of the pig club members who thought the industry would be smaller or not changed, the outdoor sector smaller and the indoor bigger. These figures can easily be affected by those completing the survey. The UK has a polarised industry so we should expect polarised results.

This is noteworthy as it becomes confusing to have no over-arching picture of the future due to the amount of stakeholders and influencers on the UK pig industry. Retailers, legislators and input companies will have differing opinions on the future of the industry, which directly affects their businesses.

I also asked what the threats to the industry would be over the next 10 years. The overwhelming threat flagged up is raw material price fluctuation. Understandably this was the highest ranked along with lesser responses on labour, legislation and new diseases.

I also asked what the biggest opportunities were. Better marketing of the UK's higher welfare status and using the EU wide stall ban of 2013 as a marketing opportunity were ranked the highest. So differentiation is still the most important opportunity. Interestingly new technologies were only mentioned once. Having an industry market place that brought the producers maximum income was the main opportunity to the industry. How it is achieved was a secondary.

I also asked what the main priorities were for their units and overwhelmingly it was improved output from improved efficiency. This was seen as a standalone issue for each individual unit rather than an industry problem. The industry as a mass was there to improve the market place and output of "pork".

So what can be summed up from this survey and what is my opinion? I think the strongest supply chain still lies with the outdoor sector being demand led from the consumers and retailers. There are challenges in this sector including available land, short sighted land agents and the Environment Agency's increasing restrictions but the capital investment benefits, the huge production advances made in the breeding herds and the integration mainly seen in this sector still leaves it in a more functional place than many of the indoor units.

The threat to this side of the industry is more likely - in the initial stages – to come from straw based finishing. Although the system itself works very well the straw may become an issue. With many arable farmers utilising the nutrients from the straw themselves by integrating it back into the land, plus the forecast of straw yield for harvest 2011 being poor and very little alternatives available, those on straw based contracts will need to secure supply. This scenario raises the cost of production as the straw supply reduces, squeezing the premium available for outdoor reared straw finished pork.

The indoor sector has a very broad range of production and systems, with some units challenging the European competitors. Like any agricultural business those who have innovated and invested in the better times are well primed to keep production costs down and produce efficiently. I am not sure it will be possible for new entrants to get into the indoor sector as the capital costs are too high and the returns too low or too unknown. However the existing businesses that have invested can produce efficiently to the processors' requirements. With no current premium all resource effort should be put toward improving efficiency.

Unlike many of the countries I have visited the UK has no financial breaks for new entrants into pigs and production costs are high, so rapid growth is unlikely. However the UK is still only 40% self sufficient in pork so there is room for growth. This is likely to be slow but consistent as consumers are still making all the right noises about being conscious of animal welfare and making shopping choices based on locality and quality. This is where the "Red Tractor" is key. Although it is unlikely that the UK sow herd will get back to numbers above 1,000,000 the output from the same sow numbers time could well increase in time. Two tonnes of meat per sow is neither possible nor profitable for all pig businesses but many can improve what they are currently doing, thereby improving the UK self sufficiency levels.

The key message from this overview is to concentrate on the things you can control. Although the threats and opportunities come from global and retail forces there is more that can be done on farm to improve the production and so improve the position of the UK pig industry. But many other factors which constrain the industry's growth – beyond internal improvements that can be made on farm - need to be addressed, and these I discuss in my Recommendations.

12. The Wool Industry



The British Wool Board grading depot at Bradford, Yorkshire.

Comparing another industry to the pig industry is difficult. Yet I visited the British Wool Marketing Board and was very surprised at the similarities in the industries

What is similar?

- Wool has been a declining industry
- It has a hard time to engage farmers with the story beyond the product leaving the farm.
- The UK has too many types of wool (sheep) in the market place as farms have made their own decisions with little thought to the market requirements.
- The UK wool industry is very different to that in most other countries.
- Only small profit margins are available.
- Good cull ewe prices have improved national wool production.

However the wool market is picking up and wool is now worth more per tonne than wheat and barley. The situation was similar to the pig industry in that if wool producers would change a few key things such as dagging out prior to shearing, paying for good quality shearers to minimise staple damage, and better use of transport their wool would yield them so much more.

As the wool market becomes more profitable the sheep farmers become more interested. The pig industry needs to maintain the momentum for attention to detail and improvement ,regardless of the pig price, in order to gain the most margin.

13. Conclusions

I have highlighted some sections of the industry that I believe need highlighting in order to create a strong industry over the next decade and beyond.

1. Steps should be taken to reduce the cost of feed through local protein sources, such as the reintroduction of Processed Animal Protein (PAP). Profitability will be more likely and producers could use this margin to invest. It is still unknown if this is an option but it would be one of the greatest steps to reduce the burden on Soya and increase UK sustainable pig production. The change in legislation in Poland to allow the use of PAP is predicted to mean a 30% reduction on their soya requirement. PAP is sustainable, green and involves recycling, all factors that farmers are being encouraged to embrace. We have environmentally conscious shoppers in the UK and PAP can be marketed correctly to tap into that.
2. The UK industry deserves a welfare respite. Increasing numbers of pigs are being kept in Brazil, Russia and China and the likelihood of these countries being interested in specific welfare issues above demand for feeding their people is unlikely in the next 10 years. Therefore it is even more likely that the EU and America will be under increasing pressure from the welfare groups as we are an engaged audience. The UK government must support food security over extreme welfare demands that can lead to the collapse of the industry through loss of critical mass.
3. Further steps can be taken to maintain critical mass by using smarter PR. The Red Tractor is key to show we are united as one industry regardless of production system. It must project one clear overarching strategy to the consumer and a professional appearance to the decision makers in food service and retail.

Please turn over to see two pictures to illustrate the above point



The picture on the left shows the situation in France when I was there. Riot Police were needed when the French pig farmers were getting their point across. The picture on the right shows a united front with the National Pig Association and government behind one clear similar logo. This logo is very important. In Brazil there are links between the farm and the product (see pictures below). This is not commonplace in the UK but it can be achieved through the red tractor rather than a farm owned brand.



Serra: Linking the farm and the final product in Brazil.

4. Growth of pig production in the UK is increasingly difficult with small groups of lobbyists. NIMBYs and misinformed people, by pressurising for the rejection of planning applications, are in danger of holding back the industry's moves to grow and become more efficient. The government must encourage local councils to look favourably on any industry that has the opportunity not only to grow but also to feed and offer employment to the nation.

5. The above conclusions need to be looked at on a national level. But there are also some areas that the producers can look at directly on farm. It is essential that producers do not get blinkered and put resources into worrying about things they cannot control and the things highlighted in the survey as threats. Legislation, Feed Price and Pig Price are all out of the hands of the producer. On farm production gains can always be in the control of the producer to differing extents.
6. Producers wishing to add value to their product should never underestimate micro economies. In a time when the UK is in a recession, groups such as Riverford Organics continue to grow with sensible contracts based on real cost of production. Whatever happens “niche” and “local” will always have a place and, if producers have the ability to create extra income from this kind of market, then everything should be done to achieve it.
7. To forecast the future of the UK pig industry over the next decade it is wise to look at the UK poultry industry, which shares a similar impact from gold plated welfare regulations. The UK's poultry farmers are ready for when the new cage regulations come into effect in 2012, and are pushing for import bans from those EU countries who have not complied with the changes. Similarly the EU pig industry faces welfare regulation in 2013 when the stall and tether ban comes into force, something the UK pig industry adopted many years ago. This could in fact be the key to the UK pig industry's future as, if countries such as Spain, Poland and France, did not comply they could be prevented from exporting to the UK, resulting in a better price for UK pigmeat. It is essential that the government understands the position.

14. Recommendations

- 1.** Initial costings should be carried out by the industry to see the effect on the cost of production and the industry's carbon footprint if PAP was reintroduced. Although the industry could export its Processed Animal Protein to those countries wishing to use it, this will not help the UK pig producers' profit margins.
- 2.** The UK pig industry's current welfare position needs better marketing with better communication through campaigns about what we do. This will help counteract the extras being demanded by extreme welfare groups. The UK's total industry is less than 1% of the global pig population and this is an important message to the welfare groups.
- 3.** The Red Tractor concept should be extended to farm signs to continue the link from the British countryside to consumer fridges. Branding can create pride from all parts of the supply chain. We should improve on what we have as a collective agricultural industry rather than create product specific logos/brands.
- 4.** The pig industry should be no different to any other trade and industry. If legislation has been put in place to prevent any negative effects from the output of a pig unit then it should be possible for that pig unit to be placed anywhere and expand.
- 5.** Efficiency, food conversion ratio and getting pigs in the optimum box are all things that the producer must concentrate on, and he has much more control over them than factors such as global soya price.
- 6.** Communicating with local successful farm shops, regional retailers and marketing groups are the best starting points to see if value added options are available to producers.

15. Post Script

My Nuffield experience has changed my life in many ways. Travelling throughout my study tour opened my eyes to agricultural industries with no constraints and which have the ability for growth. These advantages lead those within the agricultural businesses to be more bullish and the industries are more enthusiastic and positive because they are not constrained.

My decision to leave the pig industry (see below) was not based on *its* future but on *my* future. I wanted to learn about other species and broaden my horizons. My heart is still with livestock production and I think once you have worked with pigs you build a deep fondness for them so I do hope to return to them one day.

I was looking for a new challenge. I achieved so much in 2010 I knew my capacity for workload and motivation had been increased and therefore a return to my original role, post Nuffield, would leave a gap, even though I got a huge amount of pleasure from my role at BPEX.

Notification of a vacancy for an agricultural advisor for the Falkland Island government appeared in an email from John Stones and it immediately interested me. The challenge of a new environment, a new job and a new species using the skills and knowledge I had developed from 10 years in the pig industry was an excellent opportunity. I applied for and obtained the position.

I will be working as part of a small team as an animal nutrition and genetics advisor. Principal roles include setting up an EBV and indexing programme in the beef and sheep herds, looking at emerging markets for the products and encouraging farmers to look at their businesses and benchmark financial figures. Reading other Nuffield reports has greatly helped prepare me for the tasks of selecting for a true dual purpose sheep, and the lack of available nutrition on the islands.

Farming in the Falklands will use all my Nuffield skills as the Islands are limited on options to improve production. Thinking outside the box is key. With the slaughterhouse now EU-accredited and the global wool price increasing the future looks very bright so it will be exciting to be in an expanding industry, albeit taking small steps. I also look forward to working with a mixed bag of Australians, New Zealanders, Brits and Falkland Islanders all in the Ag Department.

On the next page there's a picture of me in my new location on The Falklands.



The author on location in the Falkland Islands where she now lives and works : July 2011

Acknowledgements

The BPEX Merial (Nuffield) Award was only in its second year when I received it and it is a great opportunity to deliver something for the industry. I am grateful to everyone at BPEX and Merial for this amazing opportunity and even more proud of myself for getting past an interview panel with Richard Longthorpe on it!

I had an easier time than most in organising my tours due to the network, nationally and internationally, that came with my BPEX role but there are some companies and individuals that stood out for creating an invaluable experience:

- Mario Penz and the team at Nutron in Brazil who in a short space of time organised an amazing tour which covered 3 states.
- Louis Herdidge and the team at Lallemand for my time in France plus SPACE and the Riot that left me feeling like Kate Adie.
- Kevin Beaty, a fellow UK Scholar, for persuading us to go to China as a group and organising some pig elements against all odds! What a very strange but unforgettable 10 days.
- Ian Hands and the team at Elanco for taking me to Thailand and giving me an audience with some leading pig producers and some sights that I will take to my grave.
- Digby Scott for allowing me to lead the way on the Nuffield Blog so that the industry could keep an eye on what I was up to. The blog is part funded by them.
- Andrew Bouffler a Nuffield Scholar from Australia who persuaded me to apply and I hope to see him soon in the Southern Hemisphere
- and my own personal pig hero Andrew Stockings who was a great inspiration to me, mainly on communication style, and I never stop hearing his one comment when I interviewed him and Sally: "Pig keepers should get on with the business of keeping pigs".

And finally John Stones who sent me an email that changed my life and to my best friend who sent me too many encouraging texts to count whilst I travelled nationally and internationally.

Helen Thoday

Department of Agriculture
By-pass Road,
Stanley,
Falkland Islands FIQQ 1ZZ

Tel. Number : 00 500 52132
Email : hthoday@gmail.com

Appendix 1: Questionnaire Results

Young NPA Results

Producers 10

Q1 Will you still be in the industry in 2020?

Yes No

10 0

		Bigger	Smaller	No Change
Q2	How do you think the UK pig herd will look in 2020?	8	1	1
Q3	How do you think the outdoor sector will look in 2020?	6	1	3
Q4	How do you think the Indoor sector will look in 2020?	5	1	4

Producer Group Results:

Producers 22

Yes No

Q1 Will you still be in the industry in 2020?

18 4

		Bigger	Smaller	No Change
Q2	How do you think the UK pig herd will look in 2020?	4	7	11
Q3	How do you think the outdoor sector will look in 2020?	4	13	5
Q4	How do you think the Indoor sector will look in 2020?	13	5	4

contd. overleaf

Q5 What do you consider the UK Pig industry's biggest threat over the next 10 years ?

YNPA ranked answers

Developing Countries/Foreign COP
RM Fluctuation and Price
Disease UK and Incoming
Exchange Rate
Pig Price Volatility
Labour
New Legislation

Producer Group ranked answers

RM Fluctuation and Price
Imports
New Legislation
Supermarkets
Disease UK and Incoming
Competitive
Exchange Rate
Labour
Welfare Lobby
Feed Availability
Developing Countries/Foreign COP
Pig Price Volatility

Q6 What do you consider the UK Pig industry's biggest opportunity over the next 10 years ?

YNPA ranked answers

Increase UK % of market post 2013
Market Welfare
Become more competitive
Demand for good value protein
Reduce Imports
UK Food Security Drive
Grain Conversion Rate (v Ruminants)
Genetic Development (FCR)
Grow National Herd

Producer Group ranked answers

Population Growth
Increase UK % of market post 2013
Market Welfare
Demand for good value protein
Chinese Export
Supply Chains
Genetic Development (FCR)
Grow National Herd
Competing with poultry
Educate the Consumer
New Technology

Q7 : What are your 3 main priorities over the next 10 years?

YNPA ranked answers

Efficiency v Output
Improve Buildings
Expand
Input Cost Control
Improve Herd Health
Enjoy Life
Grow Sales of Value Added
Better understanding of the consumer
Calculate Carbon Footprint
Pay Off Loans

Producer Group ranked answers

Efficiency v Output
Input Cost Control
Staff Training
Environment Legislation
Stay in Business
Improve Buildings
Expand
Calculate Carbon Footprint
Energy Production