OPPORTUNITIES FOR FURTHER COOPERATION AND COLLABORATION IN THE UK PIG INDUSTRY.

A Report for the Nuffield Farming Scholarships Trust.

Sponsored by the John Oldacre Foundation.

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This report is of my own findings and opinions. They are not necessarily those of the Nuffield Farming Scholarships Trust, nor any of its sponsors.

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So I am most grateful to those who made it possible to leave my business in capable hands for several weeks, as well as to those who kindly gave me assistance with finding contacts on my tours and to those who gave time up to meet me and share some of their thoughts and show me their business, often at quite short notice.

Especially I would like to thank those who gave hospitality to a usually slightly lost, English pig farmer.

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Summary

As a first generation farmer, having built up a reasonably large outdoor pig farming enterprise, survived the challenges of recent years and being part of a group of similar businesses who meet regularly, I wanted to see if greater cooperation between pig producers could be a way of surviving or even thriving in the future.

Initially, some ways in which pig producers have cooperated in the UK are looked at, including examples from history, including buying groups, marketing groups, producer alliances driven by pig health, vertical integration, supply chain collaboration and the success stories of the Pig Improvement Company and Cranswick PLC. These examples help dispel the notion that we are not cooperatively minded in the UK.

My tour was dominated by several weeks looking at groups of pig producers working together in North America, where some very large scale enterprises have developed. The first part of this tour was to the Canadian province of Alberta, where a partially successful venture was looked at as well as a novel group of farmers who jointly invested in pig production enterprises. I was also privileged to have visited a Hutterite Colony and the Sunterra Farms business, which operates numerous joint ventures.

In the USA, many of the operations visited were very production focussed, and the catalyst for them to work together was the need for high health pig herds to ensure efficient production. Good examples of this were the Pipestone and Carthage Veterinary Clinics in Minnesota and Illinois with over 110 000 and 60 000 sows respectively. All of the sows are owned by various groups of farmers with pig finishing facilities, the veterinary practices providing management services. In North Carolina, a group was visited that was formed from 16 farmers who jointly owned 26 500 sows. A more market focussed business was visited in Iowa that produced traditional breed pork from traditional style farms, for the premium end of the market which is largely ignored by the big players.

To pig producers of mainland Europe, cooperation is second nature, the Danish pig slaughtering industry is almost totally cooperatively owned by the country's pig producers. The French cooperative exist in a complex web to provide their members with all services including genetics, feed, veterinary services and processing. This has been instrumental in France becoming one of the lowest cost producers in Europe.

Developing the thoughts of cooperation further, barriers to cooperation are looked including the practice of "divide and rule" which has often been successfully employed. Some theories of cooperation are briefly explored, especially the "prisoners dilemma" game which has been used to explore human nature in a situation where working as a group can give bigger gains to the group than working separately.

The conclusion highlights the benefits of cooperation to the pig industry, these being increased production efficiency; product uniformity; access to markets and social benefits. There is a list of factors that have been found in successful cooperative ventures.

The list of recommendations from the study, include sub lists for individual producers, groups of producers looking to cooperate and the UK pig industry as a whole.

INTRODUCTION

I have been a pig producer since 1988, when at the tender age of 22, having finished my HND at Harper Adams, I was looking for a business that I could start small, with my very limited amount of capital, yet expand rapidly if profits allowed.

At the time, there were two main pressures on agriculture as I saw it; there was pressure to reduce support for agricultural production through the Common Agricultural Policy and the animal welfare lobby was growing in influence. Pigs being relatively unsupported by the CAP appealed to me and outdoor pigs in particular for the welfare image they portray. Coupled with the regular cash-flow, once established, from selling weaners weekly as well as the availability of light land to rent on short term agreements everything was set fair. Starting with 60 sows selling weaners, the business has grown to 1000 sows, with finished pigs marketed on a stabilised contract ending up on the shelves of a premium retail chain.

A series of disasters struck the UK pig industry since the late 1990s. Following the collapse in prices and outbreaks of swine fever and foot and mouth, new diseases came to the fore, linked to the "Porcine circo virus type 2" (PCV2). The lack of knowledge of how to cope with these diseases led to BPEX getting groups of pig producers in particular areas to get together and discuss their management. Not a huge amount of technical benefit came out of the meetings that I attended; the benefits went beyond that. The feeling of a shared problem being a problem halved was immense, knowing that other people were going through the same thing was very helpful as was the mutual support, somewhat akin, I should imagine, to Alcoholics Anonymous.

Our local group, based in the outdoor pig dense area south of Thetford, on the Norfolk and Suffolk borders and somewhat unimaginatively called the "Wednesday Club", still meets regularly and has been the base for other initiatives, in particular "The East of England Pig Training Group" which aims to develop our key resource, our staff.

A natural development of the group is to align our businesses more closely; ideas have been discussed but have not got beyond the first talking phase, as there have been seemingly insurmountable obstacles, with no great will to work through them.

My enthusiasm for greater cooperation between producers had though, been hatched and I wanted to examine some cooperative ventures between pig producers throughout the world and see how they had developed and grown.

Consolidation, supply chain integration and premiumisation are three key drivers of the pig sector. Pig production is getting into fewer hands with larger herds; average herd size has grown but not as swiftly as the average number of sows per owner as contract production has expanded.

As pig producers we are in danger of operating in isolation. We all end up in conflict over the same market, the same supplies and the same opportunities, whether we look at this on a local or global scale or all points in between. Like it or not, our major outlets are and will be for the foreseeable future, the large retail chains. They have one huge advantage; scale. The only way to meet their power on equal terms is to have scale ourselves, a way we can achieve this is to work together; to cooperate.

This report aims to inspire a greater level of cooperation in UK agriculture in general and in the UK pig sector in particular. To that end examples from my travels that I have been privileged to see first hand are described and the key attributes and lessons from each example are found. I hope that the enthusiasm that I have found for cooperation will inspire others and lead to greater levels of cooperation in the UK pig industry. I do not intend this report to be an exhaustive guide on how to cooperate.

I aimed to speak to both the senior management and some members of the cooperatives visited. The interview with the management focussed on the history of the business, with other questions about the current and future policies feeding off that conversation. With the members, I was interested in their reasons for joining the group and how their business may have benefited. All were conducted informally and usually deviated into a conversation on the challenge of scratching a living from pig production.

THE UK

"We are not cooperatively minded"

The Rochdale Pioneers

The cooperative movement was founded in England in the 1840s in the Lancashire town of Rochdale. People from working families pooled their resources to buy food in bulk and therefore save money. The cooperative did not need to make a large profit, all savings being passed on to members, a simple principle which stands the test of time. The legacy of those pioneers is still seen in the CWS group, being the largest farmers in the UK and the regional COOP retail chains.

Compared to our neighbours on mainland Europe, the level of cooperation between farmers in general is perceived to be extremely low. A major reason for this is that historically UK farming businesses have been much larger and consequently more self sufficient. We do not have the classic European type cooperatives but there are several ways in which pig producers are cooperating:

Buying Groups

There are several feed buying groups, where producers group together to achieve scale in order to use the increased bargaining power to negotiate terms with feed compounders. Typically they will negotiate the margin over raw material costs that the compounder will take to cover milling, haulage and other costs, then, it is up to the producers to decide the raw material buying strategy. Either, they act as a group or individually, as scale would make little difference to the cost of raw materials and individual members may have different views of the market and different ability to back this off with their own grain sales. Usually an independent nutritionist is employed to write and check diet formulations.

These groups are often part of a much larger general agricultural buying group, that can be used to buy other inputs. The scale of these groups is not the only way in which they can get discounts; they are also able to guarantee prompt payment to the supplier, by vetting potential members and using direct debit and BACS payment. The more successful of these groups have consciously avoided too much in the way of diversification into other services.

Marketing Groups

There are several marketing groups in operation in the UK. A typical one of these, Porcofram, started in the 1960's in Suffolk, a time when average herd size was less than 100 sows. Initially focussing on marketing pigs for their members, carrying out the weekly operation of matching pigs available with abattoirs requiring pigs and arranging haulage, payment and feedback of quality.

Further services provided and added on over the years included computer recording, consultancy, a feed buying group and good deals on breeding stock. Getting decent deals with suppliers relied on the fact that payment was guaranteed to the supplier on time as it could be taken out of payment due for finished pigs. Payment terms for finished pigs are normally 28 days in the UK, for an increased marketing levy, the group could make prompter payments to the producer. The group also traded weaners.

At one point, Porcofram amalgamated with a genetics company, United Pig Breeders, itself producer owned. For a period, they traded as UBP Porcofram. However during the financial crisis in the pig industry in the late 1990s the company was split up, the breeding side was purchased by some of the management and the marketing side was taken over by BOCM Pauls, ending its status as a farmer controlled business.

Several of the other groups are still farmer owned, some specialise in pigs, others such as Meadow Quality and Anglia Quality Meats handle all species.

Interestingly, in 1999, most of the groups attempted amalgamation, in an attempt to increase selling power for their members. This was short lived, possibly as individual member groups were picked off individually by the processors with offers of better deals. The result has been the groups working against each other. If one group tries to tie up a contract with a processor for a guaranteed supply of pigs, at a certain price, the tendency can be for other marketing companies to try and undermine that deal. Often the groups are undermining each other over the same pigs, looking for the same outlet, but through a number of marketing groups.

As well as producers paying a levy for the services of the marketing group, the group is also paid a "procurement fee" by the abattoir. This sometimes begs the question as to who the group is actually working for.

Producer Alliances

A great weakness has been the health status of the UK pig herd, leading to low productivity and consequently high cost of production. In a relatively pig dense part of North Shropshire there were several producers experiencing this problem. They varied between indoor and outdoor, farrow to finish, weaner producers and independent finishers. Two things that they did have in common though, was that they all had a relatively poor health status and they used the same veterinary practice.

Two breeding herds were keen to repopulate, the success of this could well have been compromised by the health of their neighbours' pigs. The farmers sat down together with their vet and the breeding company chosen by the breeding herds and persuaded the independent finisher to purchase weaners from one of the breeding herds. This involved some compromise on all parts, the finisher had to cease using his trusted, long standing supply and the breeder was unable to finish as many of his progeny as before as he had to sell a significant amount to his finisher neighbour. However the gain for all parties was much improved health status and consequent secured profitability.

Vertical Integration

This was the buzz phrase of the 1990s. The poultry industry led the way many years ago and now feed compounding, production and processing under common ownership is ubiquitous with names such as Grampian and Crown.

The pig industry followed suit, currently only Grampian shows full vertical integration, but only in Scotland. In England, Grampian is only involved in processing, with its feed compounding business concentrating on the poultry industry. There was a trend in the mid 1990s for feed compounders to own pig production, which was placed with contract producers. This phase also helped fuel the expansion of the outdoor pig sector. The pig price crash in 1998 saw the swift end of one or two compounders' interests, which were sold to some enterprising individuals who now have built very large pig production businesses. One feed compounder's pig production business was sold to a processor, so that production business has been involved in both compounding and processing, but never all three at the same time, so has never been fully vertically integrated.

Supply Chain Collaboration

The last integrated business mentioned above, now owned by the Danish producer owned processor Tulip is heavily involved in a supply chain dedicated to the retail chain Waitrose. This chain involves three types of pigmeat production; organic; outdoor bred and free range finished and outdoor bred and finished in buildings on straw bedding. A key part of this is that the retailer takes responsibility for the whole carcase, rather than only certain primal cuts, so that the processor does not have to sell less desired cuts onto the commodity market. All pork products sold come from these pigs. The only non-British pigmeat that they sell is a small amount of Danish bacon, clearly demonstrating the strength of that brand; Waitrose dare not stock it. This all translates into a fair price for the producer, calculated from the DAPP, retail pigmeat prices and cost of production. This is not always the best price, but is always fair.

This is starting to be imitated by other retailers, fearing for the source of their future supplies but one thing that makes it possible for this retailer to act with such long term aims is that it is part of the employee owned John Lewis partnership and is therefore not beholden to institutional shareholders chasing continual share price growth. This has not stopped Waitrose being very successful in profitability and growth, with plans to open a further fifty store by 2012.

Importantly, the three production chains individually use the same genetics, feed and type of management to produce a consistent product, to ensure the customer is happy all of the time. Recently, the producers in the chain have started meeting regularly with the processor. One of the topics discussed is how they could cooperate further to bring benefits to all parties.

Over 80% of the pigs in the chain are owned by one company, BQP (British Quality Pigs). Now owned by Tulip; having been set up by a feed company in the early 1980's. All of these are kept with contract producers. Typically the contract breeding herds are around 850 sows in size, operating a three week batch farrowing system. The contractor usually rents land on a short term deal, owns the housing and equipment and employs the labour, BQP supplying pigs, feed and veterinary input. This type of scheme has been a very important method for people without an opening on a family farm to get established in farming quickly on a relatively large scale for quite a low capital requirement.

Similarly, the contract finishing system, where BQP owns the stock, but the farmer provides the buildings, straw and labour, has enabled many small, family farms to develop another enterprise, or move away from an unviable, capital intensive, financially risky, small indoor breeding pig herd, and retain or increase the amount of labour employed.

Because of the dominance of BQP in the chain, it is relatively easy for there to be cooperation among all of the producers in all aspects of production. Simply, BQP states its policy and the other producers have little option but to follow. The success of this all depends on how this is implemented. The strategy of having regular meetings of the producers is a key way in ensuring that the system works.

Other Successful UK Companies Originating in Cooperating Producers

PIC

Why don't "they" do something became why don't we do something.

In the early 1960s, scientific progress had left pig production behind. Advances in genetics and health management were not being adopted by producers to a great extent as the means to commercialise it was not developing at the same rate, traditional pedigree breeders dominated the industry. It is now part of pig industry folklore that a speaker failing to turn up to a pig discussion group meeting led to the members having a frank discussion among themselves about the situation and deciding to take the initiative themselves.

So the Pig Improvement Company was born. The managing director was Ken Woolley, described as a man who "knew where he was going, dragging everyone else along in his slipstream." They aimed to supply themselves with healthy, quality breeding stock, starting with a total of 80 sows, according to one of Woolley's sons, now involved in a very progressive Canadian farming company, they aimed to be "the largest pig breeders in Oxfordshire", by 1970 they were the largest pig breeders in the world and sold out to Dalgety, who had the access to the capital required to realise the full potential of the business. The company is now part of Genus and still dominates pig genetics in North America.

Cranswick

In the early 1970s a group of East Yorkshire pig producers got together to invest in a feed mill to jointly produce their own compound pig feed. This evolved into pig marketing, a service which was offered to non members as well along with feed sales. In the late 1980s the opportunity was taken to diversify into processing with the purchase of an abattoir. Soon they took the added value route and being financially successful, further acquisitions were made, made possible by raising capital from floatation on the stock exchange.

The company has been consistently successful, especially on the added value side with a number of successful acquisitions, including diversification into pet food. Turnover is now over £450 million. The feed mill was sold to a national compounder in 2007.

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NORTH AMERICA

The North American pig industry has developed very rapidly over the last twenty years from domination by small farmers using relatively genetically unimproved pigs. Their backfat levels could be measured in inches, with herds kept partly outside on mixed farms and production was often seasonal.

The attitude that began to prevail in the 1990s was "go big or go home" as the industry modified rapidly and fortunes were invested, made and lost. Today specialist pig operations rule. One company (Smithfield Foods) owns over one million sows worldwide and over 800 000 sows in the US, compared to a UK total sow herd of barely 440 000. In the annually produced list of "Pork Powerhouses" you need over 50 000 sows to get in the top ten. These operations usually consist of very large sow farms of anything up to 10 000 head and the piglets produced weaned to "offsite" accommodation, managed on an "all in, all out" basis to ensure health and consequent cost effective growth. Some of these farms, both breeding and feeding are owned and managed by the companies themselves but many are owned and operated by independent farmers who keep pigs "on contract" for the larger companies (as is the case in the UK).

A look at the list of "Pork Powerhouses" (appendix 1) shows a wide variation in types of ownership of the company. A healthy number are ventures jointly owned and run by independent farmers. The "can do" attitude of the successful operators and relative lack of fear or stigma connected with business failure, combine to make some very go-ahead farming businesses.

Canada

The Canadian pig industry is under pressure. It is said that Alberta has more oil underneath it than Saudi Arabia, the oil industry is booming, leading to a strong currency relative to the US dollar. Labour is drawn away from farm work by better money in the oil industry. Rising grain prices impacts on cost of production and a large expansion of the industry made it the largest pigmeat exporter in the world for a time. Japan is the main focus for export.

In the province, Alberta Pork is the levy body responsible for two main areas; marketing and promotion of pigmeat consumption within Alberta and technical backup and assistance to pig producers. The Alberta pig industry comprises around 400 000 sows, about the same as the UK. A significant amount of the progeny is exported to the USA, especially Iowa, for finishing.

Rocky Mountain Pork

A Producer Marketing Alliance

I was drawn to visit Alberta from hearing of Bernard Peet, a prominent UK pig industry consultant, who emigrated with a view to setting up a large venture comprising a group of farmers working together to supply a dedicated processor at a stable, risk managed price. This contract featured a fixed price for the first twelve months, to encourage investment. Then also to have other group ventures built around this such as multiplication of breeding stock, benchmarking, staff training and development and quality assurance. Also, initially, it was hoped to establish integrated production, to suit the iso-wean management system. With feed grains grown on most of the farms, home produced feed is a feature, so there was little to be gained from working together in feed sourcing or manufacture.

The development of this met a challenge early on, when the processor involved was sold and the new owners wanted nothing to do with the stable contract. The early contracts are still in place and will end after the contracted time period. Somewhat incredibly, the processor had not heard of the concept of value chains.

Further spanners were put in the works when human nature came into play. The co-founder cites three broad personalities:

- Some look after only themselves
- Some buy right into the whole idea
- Others are hesitant.

In the end, most members of the group joined because they were driven by the need for financial security, rather than a vision for the future. A group mentality has not prevailed and even group meetings discontinued when they became counter productive.

The co founder is open that to make it work effectively, there would need to be a strong leader or strong management team, coupled with commitment from the producers.

From a clear vision of a large group of independent producers working together, what has evolved is a group of producers working independently, producing pigs efficiently at low cost, served by the independent businesses of the original visionaries, supplying key services such as genetics, staff procurement and training as well as marketing the pigs. Was the original vision just a bit too ambitious?

<u>Perkins Farms and Sunhaven Pork</u>

"Working together to maintain our independence; together we can achieve what we can't separately."

Bryan Perkins

Right out on the eastern Albertan prairies, one farmer has developed a concept that he terms "community farms". By his standards, he claims to be a family farmer, on the surface of it, that claim might seem a bit rich, with his 9000 acres in wheat and canola, in addition to a large pig enterprise. Spending time with him as he hauled grain and took a turn of one of the combines it is difficult to argue. His extended family owns and works the land and they all work on it and derive their income from it.

The community farm concept refers to the 11 000 sow pig operation. There are five breeding units, comprising a multiplication farm, "iso-wean" gilts move from this to a gilt development and breeding farm where they have their first litter. Then they are moved when back in pig for the second time to any of the three other breeding farms, only one of which is owned soley by Perkins Farms. Much of the progeny is finished with contract farms and often these farmers are shareholders in the breeding farm that supplies them.

The multiplication farm and two of the commercial farms are jointly owned, separately of each other, by groups of investors. Numbering, depending on the farm, anything from 30 to 100 individuals these are mostly local and predominantly farmers. The farms are run as LLC's

(Limited Liability Companies) rather than traditional Coops and typically 50% of any profits are distributed. There is no investor protection, losses are also shared.

Key benefits of the approach of independent operators pooling resources include economies of scale, pooling of knowledge and expertise in nutrition, marketing, risk management and agribusiness. Also they pool their access to outside expertise, expanding the collective pool of knowledge. The collective scale of the operation allows access to marketing opportunities.

All of the finished pigs are slaughtered in Vancouver, British Columbia, the company supplying over 60% of that plant's pigs, focussing on the value added Japanese market, where the white fat from the small grain (i.e. wheat and barley rather than corn) diets is valued. Further selling points to that market are the loose housing of the sows and the straw based finishing. The product is branded "Sunhaven Farms".

The management of the farms is carried out by the Alberta Pig Company, which happens to be owned by the Perkins family. There are two feed mills in the system, one supplying the Perkins own farms, the other, the three Community farms, the investors in the community farms supply grain to the mills, a key feature being the ability to add value to their grain in an area with few marketing options before expensively hauling it out of the province. If it comes to it, the right to supply grain is linked to the amount of money invested by each individual; this has not yet been called on.

The approach demands a willingness to work together and delegate some of the decision making to the group. The members feed off the collective energy, talent and enthusiasm of each other.

A major benefit of the system has been that the farmers in the area now really **know** each other rather than just **know of** each other.

Having exceeded their target of 10 000 sows, the focus is now on growing profitability, plans include a new boar stud and new finishing buildings as well as bringing more of the services they use "in house".

Hutterites

Highly advanced cooperation

The Hutterite movement is founded on a long persecuted protestant sect originating in Europe. Persecution drove them to be among the early settlers to North America and following that to be quick to move westwards. A major difference between them and other similar and better known groups such as the Amish is that they live communally on large farms, producing a diverse range of foods in order to feed themselves and to generate cash.

They live a very simple life at home with no modern conveniences or means of entertainment, they also eat communally and this means that they have little need for personal income. Conversely, their farms are seen as vital sources of money for the colony as a whole. Therefore farming is to the highest level and very highly mechanised, despite the low labour cost. My visit to the Scotford Colony at Fort Sasckatchewan, near Edmonton saw the very highest of technology employed in the 450 sow pig unit and feed mill as well as fleets of arable equipment and trucks to excite the biggest of children.

As the population of the colonies grow, cash generated is saved for the time when the colony needs to split. A new separate colony is started from scratch, elsewhere, with saved money and no borrowings.

The overall impression was of a cohesive, highly effective community bound together by their religion and the need to generate money to finance their future daughter colonies.

Sunterra Farms
Many joint ventures

This is a large, multi faceted farming operation. The company's growth was started when in 1970 the Price family built a pig unit in conjunction with a fast-growing pig breeding company, PIC. The nucleus farm they established was responsible for much of the development of the North American pig industry. Pig Improvement Canada was sold for a large sum of money to PIC in the 1990's which enabled the three families involved (Price, Fredeen and Woolley) to expand the business which today comprises:

1. **Pig production**, 7500 sows, only 25% of the progeny finished in Alberta, the remainder moved to Iowa in the USA for finishing. A further 5500 sows are owned jointly with a well known Yorkshire pig producer, in Ontario, again the pigs move to Iowa for finishing. Historically finishing costs are much lower in Iowa due to high availability of feed grain. Iowa also has an abundance of pig processors.
2. **Three processing plants**. One pigs only, one multi species (not cattle) both in Alberta and a further joint venture plant in Ontario.
3. **Sheep.** A 15000 head feedlot, designed to supply 1500 head per week to the multi species plant. The supply of lambs for this comes from a series of joint venture breeding flocks, Sunterra maintaining an involvement to have an influence over seasonal supply problems.
4. **Stores.** Not quite your average upmarket farmshop; a whole lot more. There are nine stores in Calgary and Edmonton. Started in 1990 as a premiumisation opportunity, they use about 1% of the meat produced by the farms. Typically there are two types of store, firstly the out of town food superstores, with a very high quality ambience and range of food on offer and secondly the downtown stores, situated in retail malls well located for office staff to buy their lunch fast or slow, and also to sell "meal solutions" for the fast paced executive to buy on the way home. Cleverly the retail operation has very low waste. As food reaches its "best before" date in the out of town stores, it is moved to the downtown stores to go into the ready made products. Also some area of prime retail property is owned by the business.
5. **Rancher's Beef.** This is the latest baby and is a vertically integrated beef operation. Owned one third by Sunterra, one third by Cor van Way, a large feedlot operator and one third by a group of 50 suckled calf producers. One share owned by one of these producers entitles them to one beast per year through the feedlot and abattoir in the manner of a "new generation coop". There is 45000 head of feedlot space. The plant is at Balzac near Calgary and features total traceability using bar codes and a combined carcase evaluation and cutting system similar to the Danish Autofom, ensuring optimum use of the cuts. Traceability is about quality as well as food safety.

What example is this firm exhibiting in terms of cooperation? Well, the company is never backward in entering into joint ventures to attract the investment and skills to make the venture a success. This policy was founded in the Price family's venture with PIC. All in all, they exhibit an excellent approach to cooperation, without the word coop being used.

The USA

The Pipestone System

Independent pig finishers with jointly owned breeding farms.

"This is a dictatorship and I am the dictator."
Dr Gerald Kennedy

The two senior partners in the Pipestone Veterinary Clinic at Pipestone in south western Minnesota, Dr Gerald Kennedy and Dr Gordon Spronk decided in 1990 that the pig industry in the area needed modernising and, as they put it, as they were new to the area they could "risk offending their clients". They established a 750 sow multiplication farm, producing PIC gilts with money raised from 65 farmer shareholders, the money invested by each farmer in proportion to their gilt requirement from the new farm. At the time these producers would have had up to 300 sows, producing finished pigs, many would have had less than 100 sows but with desires to modernise and expand to diversify their arable farms. The important feature was that the Veterinary practice managed the farm, employing the labour and keeping a firm grip on a vital factor in pig production; health.

Meanwhile a feed compounder, Purina Mills, in Nebraska and Western Iowa was establishing a model, where groups of pig producers modified their farms to become wean to finish farms and then jointly invested in new breeding sites, leaving the management of these sites to a company called Professional Swine Management Services. This has since folded under corporate restructuring, but the model had been established.

Back at Pipestone, by 1992 a second multiplication farm was added again with farmer investors. Both of these farms now stand at 1600 sows. By 1994 the success of these farms and the principles of farmer investment backed up by management input from the Pipestone Vets became apparent to all. A group of 16 producers decided to take their shares from the original farms to establish a brand new 3200 sow farm, producing iso-wean piglets, to be finished on their own farms which they converted to wean to finish.

State law at the time prohibited more than 10 farmers co-operating, this was skilfully sidestepped by setting up the new farm as two 1600 sow units, joined together. One share in the farm entitled the holder to 600 piglets every eight weeks, this neatly fitted in with the wean-to-finish farms of the shareholders each having one nursery and two finishing buildings each of 600 head capacity. The key driver of this principle, now widely adopted throughout the world, being pig health.

The shareholders put up the initial set up costs and then paid an agreed figure for the piglets supplied, based on the cost of production. Further breeding farms were established as success breeds success, all jointly owned by groups of farmers. Some groups pay more than cost of production for their pigs, the profits generated by the breeding farm is then used to fund its expansion.

A logical extension to the system was the establishment of boar studs, they now have four studs, totalling 1750 boars, in a break from their usual way of doing things, the boar studs are owned as well as managed by the Pipestone Vets.

The breeding farms have grown to total over 110 000 sows (remember the UK total sow herd is around 440 000 sows) most were new units that were established on the same principles as the first one, many are farms that were established with the involvement of feed companies, subsequently the Pipestone Vets have taken over the management of them. The clinic also manages some finishing farms.

All administrative functions are now centralised, employment of farm staff is carried out by an in house company, "M Serve", the clinic handles all recording, including that of the finishing farms, all of which are independently owned and operated by the shareholders, in order to monitor the effectiveness of the health protocols. All professional services are operated in house, including lawyers, planning applications and project management of new units and business insurance.

With an eye to the future, a suitable successor to Dr Kennedy as CEO was identified whilst still at University and he is now working in the practice. There are now 450 employees.

Feed for the breeding farms is sourced through commercial compounders. Typically, the shareholders have arable farms and the wean to finish unit is used to add value to their home grown grain maize and locally purchased soya bean meal via on farm mill and mix plants. Up until now the logic of this has been clear, with little other option to market their grain without costly haulage over long distances. The advent of the bio fuels industry as an alternative market in the area now affects the whole economics of their current practice.

When a local meat processor came on the market, it seemed logical for a group to buy it. Originally the plant majored on beef processing, handling only 2% pigmeat. This was changed and heavy losses ensued. Returning to the original focus on beef returned the plant to profit and gave everyone involved an expensive lesson.

The scale of the Pipestone operation has given it some marketing muscle. Stabilised "window" contracts are available, the Clinic can and does market pigs on behalf of the shareholder. The marketing service is not compulsory and is far from a main feature. In general, the shareholders sell their pigs independently. It must be pointed out that by US federal law, processors must pay for livestock within 24 hours of slaughter. As in the UK a key reason to use a marketing group is to get paid more swiftly than the 28 day norm and to insure against bad debt there is therefore little need to market through a third party. The swift payment removes the need for insurance.

Legislation impacts in other areas as well. In order for pigs to be hauled across state borders they need a health certificate, meaning that the pigs must be seen by a vet every 30 days. These vet visits are backed up by weekly visits by production managers. In contrast, with the breeding farms across the entire operation averaging 24.5 pigs weaned per sow per year, the shareholders only need to meet once per year.

The scale of the entire operation has benefits in the event of difficulties, for example if and when a breeding farm has a health breakdown resulting in a shortfall in production, other farms in the system are performing beyond expectation and have surplus pigs, so instead of a shareholder having to run below capacity with pigs from his usual source, he will purchase pigs from another farm in the system, avoid mixing pigs and remain full.

Often farmer shareholders will trade shares in order to match expansion on their own farm. For example, if a finisher taking 600 pigs every eight weeks (one share) wishes to double up, but the farm in which he is a shareholder is not expanding, he might sell his share to a new investor or another shareholder in the group wishing to also double up, then invest in two shares in a new unit, rather than having two farms, both mixing pigs from different sources. The impetus for this is health.

At the time of visiting, plans were afoot to continue expanding at the rate of 20 000 sows per year. Planning was not seen as an issue, with some sparsely populated areas, such as South Dakota and North Eastern Iowa approaching them and encouraging them to erect sow farms in order to help boost local economies. At the time (October 2006) there was only a little concern about the burgeoning biofuels industry and its impact on feed grain costs. That has now changed.

Dr Kennedy describes the veterinary practice as having been veterinarians who happened to be involved in agribusiness but are now agribusiness people who happen to be veterinarians.

The Carthage Vet Clinic
A replica of the Pipestone System.

The area of western Illinois around Carthage is, for a maize (corn) producing area remarkably free of pigs. This is because of cheap freight costs due to the mighty Mississippi and Missouri rivers making feed grain costs higher than in Iowa, where the rivers are less navigable.

This was identified by Dr Joe Connor, whilst working for PIC, when he moved to the area and set up his specialist pig veterinary practice he got farmers from outside the area to invest in multiplication farms to supply themselves with gilts and capitalise on the high health status of the area. A year or so later a nucleus farm breeding great grandparent stock was established to supply the multiplication farms.

The sows managed under the Carthage Vet Clinic now total around 60 000 sows, as with Pipestone, typically farmers with 200 to 300 sow breeder feeder units liquidate their sows, convert their farm into a wean to finish set up, usually with a combination of new builds and building conversions, and invest jointly with other farmers in new breeding farms. The investors are geographically spread from Southern Minnesota to Southern Illinois. Marketing of finished pigs is left up to the individual producer.

As with the Pipestone Clinic, the business is expanding; all of the investors are existing pig producers and there is no hard sell to encourage investors, they approach the vets.

The Maschhoffs Inc
“Progressive Farming Family Style.”
Using “Production Partners.”

Corporate pig farming everywhere can get a bad press. The Maschhoff family firm farm over 115 000 sows from their base at Carlyle, Illinois and are masters in the art of looking after the image of their company and that of corporate pig farming. The ethos that they use is that they are a family farming company, working with other family farmers. These other farmers keep pigs for the Maschhoffs; either sows, nursery or finishing, on contract similar to the UK system. Where one party owns the stock and supplies the feed and the other party owns the buildings and looks after the pigs. Often this arrangement can result in an employer/employee or even worse a master/servant type relationship. The Maschhoffs were anxious to avoid this developing, seeing their contractors as key to the development of their business. As a mechanism to avoid this they use the term "production partner" instead of contractor or "agistor", to emphasise the type of relationship that they try to foster. This is emphasised in their headquarters building, where in the meetings room (which incidentally is available free to some local groups) a long wall is given over to a display with pictures and descriptions of their production partners.

Payment to production partners of the Maschhoffs is based on 10 year fixed price deals, to give them the confidence to invest in buildings. This is common practice in the US.

Reopening the debate about the definition of family farmers, the Maschhoffs define their credentials to be so described in that they are the decision makers, not necessarily the grafters.

Coastal Plains Pork LLC

Forged in fire.

Based at Harrells in North Carolina the company comprises 26 500 sows, jointly owned by 16 families. The families were up until 2003 contract breeders for various arms of the enormous Smithfield foods group (over 1 million sows world wide plus processing). They had all been in production long enough to have paid off the finance secured on their farms to build the breeding units. The co-owners now contract breed for their jointly owned company.

Under a cloak of secrecy, they all gave notice to Smithfield to terminate their contracts. This was difficult to achieve as they all had contracts of different lengths, most only having one day of the year when notice could be given and all on different days. Simultaneously, the serving started of 21 000 gilts off site in Arkansas. That site went on to become the group's 6000 sow multiplication farm.

Currently 50% of the progeny is sold as weaners and 50% finished with contract producers (production partners) in Iowa, using a management company run by a veterinary practice to oversee this. As with other companies, their finishers are paid a fixed price on a ten year agreement. From the outset a processor, Tysons was on board to help manage the price risk through using a stabilised contract. Each family capitalised the business by bringing enough equity to finance stocking the breeding herd on their own farms. The whole operation was set up with three cost centres as described by the CEO Andy Smythe:

A. Each individual farm contracting to B.
B. Coastal Plains Pork LLC.
C. The "Habit 4" finishing operation in Iowa.

Each "box" is operates separately in terms of cost, equity, cash and profit. The individual farms had separate finance arrangements appropriate to each farm. B and C had a common lender and operate at quite a high gearing; consolidation is the main objective here at the moment.

In 2005 the farms made over 7 times what they would have done as contract breeders, this was mostly retained to consolidate B and C.

A key ethos of the business is to not underestimate the need for communication and involvement of the owners. There are quarterly board meetings attended by all the owners. If there is a particular issue that needs hammering out board workshops are held to allow this. This gets away from the structure and time constraints of a board meeting, allowing the issue to get a proper airing. One member from each farm is on the production team, led by the production director, who also owns two of the farms. They meet regularly. The aim is for a level management structure, where everybody feels ownership of decisions.

A business of this size can bring many efficiencies; they operate their own mill for manufacture of sow feed for the herds in North Carolina, with this plant only manufacturing the two sow diets, in dry meal form with medication added only twice a year and full lorry loads delivered, it would be hard to get much more efficient.

Soon after establishment the business met its biggest challenge. A health problem led to reduced breeding herd performance and consequent high financial losses. The business had been established as a co-op and the founder left after finding the stress a bit too much. The floundering business refinanced their debt and reformed as a LLC under a new CEO whose background was the pig industry but had moved into the financial services sector. This period gave rise to their saying that they were "forged in fire", steel becoming stronger following forging, so they believe that they became stronger as a group following that experience.

A Farmer Owned Processing Cooperative

I was told that Nuffield opens doors, the door to this group was unfortunately firmly closed to me, therefore I believe it is unfair to name it. Speaking to several industry people, the reasons for their unwillingness to talk became increasingly apparent. I believe that it is vital that the experiences learned are remembered, so I will recount my views on what I learned.

The plant is nearly new and state of the art, investment by farmers gave them rights to "shackle space". One producer's take on it is that it was just a "bunch of farmers" who thought that they could do a better job that the professionals through a smaller plant. The plant has been losing money. As a cooperative, the losses have been shared, most of the investors will have paid for the shackle space three or four times over and that space now has a negative value. The situation cannot have been helped by the head office being the other side of the state from the plant.

The Niman Ranch Pork Company

Highly market focussed

The Niman Ranch was founded by Bill Niman in California as a rancher producing "natural" meat, especially beef, using less intensive methods to those widely found, particularly using slower growth and no hormone implants. The meat found a ready market with many affluent and idealistic Californians. The company did not really get into pork until Bill Niman met a farmer from Iowa called Paul Willis who shared many of his ideals.

Most of the company's ideals are quite familiar to those of us from the UK, as it pays regard to demands of ever more discerning consumers i.e. perceived animal welfare, traceability, absence of antibiotic use and so on. One thing that Paul Willis is particularly keen on, that does not feature so much this side of the Atlantic, is flavour. He has built into the company's contract with producers a pricing premium based on an annual audit of the pork produced based on marbling, colour, taste and pH, all contributing to eating quality. The favoured combination of breeds to achieve this is one called the "farmer's hybrid" containing lines from Duroc, Chester White, Hampshire and Berkshire breeds. The annual taste audit can result in a price bonus to the producer. I did not get to sample the product.

The pork co is a farmer owned co-op. the reason for this is founded in cash management resulting from the federal law that pigs must be paid for within 24 hours of killing. However the processors can wait up to six weeks to get their money from the end users. To help the pork co. with this cash shortfall producers are deducted $1.50 per cwt which is paid into the pork co. this is matched by Niman Ranch Inc. so making the pork co owned 50% by the producers and 50% Niman Ranch Inc. All killing and cutting is carried out by sub contract, largely at "SiouxPreme" in Iowa and the end product is focussed at what Paul Willis terms the "white table cloth" market, meaning the higher end restaurants, usually on the eastern and western coasts.

To foster relationships between producers and end users, Niman Ranch Pork Co. hosts the annual farmer appreciation dinner, where chefs and "foodees" get to dine with real farmers. It is now claimed to be the food event of the year in Iowa! The highlight of the event is to visit Paul's farm. He terms this "making the connection."

The pork co. employs a network of field agents, usually farmers; their key role is farmer education and exchange of ideas. The market is expanding and they would like to fill this from improved productivity from the existing sows, rather than expansion, to give improved profitability to the existing supply base. A typical producer would have up to 200 sows batch farrowing twice a year outdoors, with progeny finished inside in "hoop" buildings bedded on "corn stover" and fed a home mixed diet. All pretty much as things were done before the advent of all of the systems earlier in this report.

Pauls Willis' definition of a family farm is where the farmer is involved day to day, according to that, everybody I met is a family farmer.

Nebraska Pork Partners
An opportunistic joint investment.

The company was formed in 2004 to purchase the bankrupt pig farming operations, Sands Livestock Systems and Fergus County Farms. The company is worked as a LLC with five shareholders, three of which are involved in pig production in their own right, on quite a scale. They have 44000 sows, enough to qualify for the "Pork Powerhouse" list, with all progeny finished in-house rather than on contract sites.

One of the benefits that the new owners brought to the company is people skills; enabling the employee's taken over with the firm to be completely on side.

There are three important factors in pig production: health, health and health. This has been the driving force for the development of the North American pig industry. The need to manage health led to the development of the iso-wean system. The need to run an iso-wean system led to farmers giving up some of their independence in order to survive long term by either keeping pigs for someone else or by becoming joint owners of a much larger operation. Some even managed to become large organisations themselves but amongst all of these operations the key to success is health, which is why veterinarians are often involved at a senior management level.

<u>EUROPE</u>

Where cooperation is second nature.

It would be over easy to describe mainland Europe as the “home of cooperation”, this would not be totally accurate, bearing in mind that the “Rochdale Pioneers” started it all in the 1840’s in England. It would be completely true to say though, that mainland Europe is the adopted home of cooperation.

<u>Denmark.</u>

I have been fortunate to have visited Denmark a few times, what serious pig producer could neglect to? However owing to time constraints I did not visit as part of my Nuffield tour.

The Danes are reputedly great cooperators, their industry seemingly acts as one, the producers ultimately own over 90% of the processing, in one entity; Danske Slagterier, through Danish Crown, owners of the internationally successful brand “Danish Bacon”.

This business has been built up over most of the last century, involving the growth of the Danish pig industry and its successful export driven strategy, initially begun to export a part of the pig’s carcase, the loin that was in low demand in Denmark, but in high demand in the UK. So Danish Bacon was born. Gradually, local slaughtering plants, often owned by producer cooperatives, amalgamated, until in the 1990s the almost unitary body, Danish Crown had evolved.

So far, it’s very impressive. At local level though, the Danish producers are less good at working together. Their sharing of knowledge and benchmarking is quite highly developed but the sharing of facilities, the amalgamation of resources and joint investment is not as great as seen in some other countries. The price achieved by Danish Crown recently for their owners is not that impressive and there has been quite a trend for producers to defect from the cooperative mentality and realise higher prices for their finished pigs or weaners by exporting them over the border to Germany. “Divide and rule” working here most effectively.

The “Danish” brand has become almost synonymous with bacon. A key factor of a strong brand is that it can command a premium price. It has failed to do this in the UK, always selling at a discount on the retail shelf to UK bacon carrying the “Quality Standard Mark”, meaning that meat was produced to UK quality assurance standards.

<u>France</u>

French pig production has been extremely successful. Within six years it climbed the European production cost rankings, made up of nine countries, from 6th to 3rd lowest cost of production. Great Britain languishes at the bottom of nine (Fowler 2006). Most of that gain has come from a remarkable uplift in sow performance, the French selling three pigs per sow per year more than the British, on average. This, I felt, had to be investigated.

With the potential barrier of somebody having not uttered one word of French since a scraped ‘O’ level in the early 1980s meeting somebody speaking an obscure French regional dialect, the chance to go on two trips to France during 2007, in groups including bilingual French pig industry professionals was too good to ignore. The fact that one trip was to the Champagne region and the other involved sampling the gastronomic delights of Brittany was, of course, entirely coincidental.

SCAPP (Societe cooperative agriculture et production porcine)

This is a 180 member coop in the part of the Paris Basin north east of the capital. There are 180 members, sharing activities in buying, selling and veterinary services. The group has shares in an abattoir in Orleans.

A member farm visited was a family 200 hectare arable farm with a 250 sow pig unit, all pigs finished at bacon weight. The level of production achieved is extraordinary, averaging around 29 pigs sold per sow per year. The biggest difference to figures I see at home is the litter size, which averages over 14 pigs born alive.

The cooperative directly employs a team of specialist pig vets and these are attributed as a major factor in the success of the pig unit, along with the dedicated pig staff, led by one of the business partners, Annabelle.

Feed Company Cooperation

Nearly all French pig producers are in some form of a coop. The coops form a complex web that I will make no attempt to unravel. This was highlighted on a visit to a research farm whose acronym was CRZA, I have no idea what the initials stand for. The facility is owned by INZO (as before). INZO is a cooperative owned by feed compounders, most of whom are in turn, themselves coops, in the hands of livestock producers. INZO is a member, not a division of Union INVIVO, which has 292 members.

INZO was founded in 1951 to service the needs of feed cooperatives, hence its activities at CRZA research farm. It expanded over time including buying or joining in joint ventures with companies abroad.

INVIVO is a major international agribusiness and activities include; seed, storage, trading, agricultural supplies, animal health and nutrition, distribution and services.

European Genetics Companies

A visit to “SPACE”, a vast agricultural show for livestock producers, held annually near Rennes in Brittany, highlighted to me the importance that agriculture is held in France. This was exemplified by a visit by President Sarkozy, post election I hasten to add, and the warm reaction of the public towards him. The respect that the French hold for food was exemplified by the vast dining area and the high popularity of the full three course luncheons. Contrast that with the more usual overpriced burger at UK shows.

The many genetics companies exhibiting almost universally had cooperative ownership. The larger coops such as Cooperl Hunaudaye, own a genetics company called Nucleus and part of their promotion at the event to attract new members was showing evidence of the advantage of their lines in terms of sow productivity, growing pig performance and carcase quality. Cooperl is also involved in the beef and poultry industries and owns two large processing plants in Brittany.

Prestor is a coop that is smaller than Cooperl and is part owner of a breeding company called ADN. Again they had impressive performance figures for their animals and a focus on continued improvement. As with the other groups they had a strong focus on knowledge transfer and veterinary services.

Almost all of the boar AI studs are cooperatively owned. Usually they carry boars from several breeding companies and as the studs are producer owned the focus is on producing a high quality product to ensure excellent breeding performance, rather than profits for the owners, which must occasionally lead to a compromise in product quality.

Other Influences

I took the opportunity of my Nuffield tour to look beyond the remit of my chosen topic and look at other aspects of the agriculture and the pig industry. These visits did influence the way my thought processes developed and therefore are described briefly, not necessarily in chronological order.

The 2006 cohort of Nuffield scholars was the first to experience the pre study, International Congress, held that year in Utrecht in the Netherlands. Everything we saw there had cooperation somewhere in its structure. Hosted largely by Rabobank (a coop) we visited cooperatively owned flower auctions, vegetable packers and distributors and wind farms. Seeing these reinforced to me that my choice of topic was correct for me. A visit to the University of Wageningen research farm at Lelystadt described how they were looking as far ahead as fifty years to speculate as to their research and development priorities, using the milk industry as an example. This gave me inspiration as to the possible future direction of our UK industry, which can produce pigs in high welfare systems that are impossible in the Netherlands on any significant scale.

Ben George from Chicago has been such a generous host to travelling Nuffield scholars over the years that he was awarded an honorary Nuffield Scholarship at the 2007 Winter Conference. The access that he got for me onto the floor of the Chicago Board of Trade for a day, gave me great insight into the global influences on commodity prices and the mechanisms that are available by commodity traders to manage price risk. I found these tools being used routinely by the large pork producers, both on the input and output side. Our methods of risk management at home are very crude and unreliable by comparison.

Time spent with Bart and Lynne Ruth and family on their 1500 acre arable farm at Rising City, Nebraska, (population 392 and falling) was a necessary break from the brisk pace of travel that I had set myself. A bonus for me was the fact that it was harvest time and I had the chance to operate machinery harvesting very high yielding crops of genetically modified corn (grain maize). The production of GM crops has taken off in the US and the farmers there are adamant about the environmental benefits their use has brought. The reduction in the use of insecticides has clearly seen wildlife benefits. Also roundup resistant varieties have allowed an increase in no-till methods of crop establishment, giving benefits to soil health and lower carbon footprint. No doubt GM is not all positive but since the dawn of time every development by mankind has brought some detriment but often further scientific advances have overcome some of the problems caused before.

I also spent time with an organic farmer in Iowa. Jude Becker of Dyersville is young and very enthusiastic, little wonder when he is the USA's almost sole organic pig producer. He was then expanding up to 600 sows with investment from a Danish organic pig producer. The potential for premium pork is relatively untapped in the USA, Niman Ranch as described earlier in this report leading the way. Viewing the pork on sale in several of the stores of the Wholefoods Market chain of stores showed little evidence of any of it having come from high welfare systems. Jude's unit features sows housed for the service and early gestation period in order to avoid the extremes of temperature with farrowing outside, UK style in British made huts. What I saw here almost had me selling up at home and getting on the band wagon of producing premium pork in the USA.

The last few days of my US tour were spent with Jack and Corinne Keane in Virginia. Jack had worked for several years for PIC in the UK and US. After a spell with Smithfield he set up a UK style outdoor breeding unit and from the outset met a huge number of challenges. A lack of skilled labour gave some difficulties but the biggest problem of all was caused by soaring temperatures in the summer of 2006, the high humidity and several days over 40 degrees centigrade resulted on a collapse in the number of sows farrowing, very high pre weaning mortality and consequent cashflow problems. Jack is no longer producing outdoor pigs in Virginia and is now involved in pig production in the former USSR.

The above experiences and the earlier visit in February with worldwide Nuffield scholars to the Lelystadt research facility, proved to me that we have something special in the UK with our maritime climate making high welfare outdoor systems possible and maybe that is something we should be exporting, to countries that value our type of production, mainly I expect Northern Europe and parts of the USA.

Having visited a number of large scale production businesses run by veterinarians I decided that the ideal being to run a large pig business would be a vet with an MBA (postgraduate masters in business administration). Putting this thought to a Vet, at the Carthage veterinary Clinic in Illinois, led almost instantly to my going to meet Professor Larry Firkins at the University of Illinois at Champaign. He not only is a vet with an MBA, he teaches a masters programme for vets in business administration and pig production for those already or aiming to be involved in the pig industry. It must take some kind of educational "junky" to want to follow the years of vet school with another year in education, and it is of little surprise that the one I found has remained in the education sector as a professor. However, if a vet with an MBA could find their way into the UK pig industry, they could be a very useful being indeed.

A chance conversation led to my getting to a meeting at the Iowa State University at Ames of the internationally famed livestock handling guru, Dr Temple Grandin. Her ideas have influenced the way we do things on my own farm.

In Alberta, the levy body Alberta Pork was most generous with their time at both centres of their operation in Calgary and Edmonton. The statutory levy (checkoff) of $1Can showed to me what can be achieved in terms of promoting and serving their industry on a very limited budget, with a small staff, many of whom had multiple roles within the organisation. The body takes engaging with the public very seriously, among the things that impressed me was the "Pig Science Centre" at Edmonton, primarily used to show pig production to school children and the "Pig Rig" and "Special Events Cruiser" that tour events in the summer months promoting pork and the pig industry. The only criticism of them came from the larger producers who felt that Alberta Pork's focus on the domestic market discriminated against them and their more export focussed businesses.

Another "regular" on the Nuffield circuit, for pig producers at least, is Brad Knippelmeir and his business Agvantage of Fremont, Nebraska. Agvantage is the US agent for the UK firm of Farmex and their range of building ventilation controls and monitoring systems. Brad is also joint owner of a contract finishing operation. The Dicam systems he has installed in his wean to finish buildings is used not only to maintain optimum temperatures and ventilation rate in his buildings but also to monitor water and feed consumption which allows them to pre-empt and avert the arrival of any potential problems, all remotely from the farm, which is 40 miles away from the office. I was invited to visit this most intensive of operations and I was surprised by what I saw, very pleasantly so. One building, the newest on site, contained 5500 pigs, all uniform in size, hardly a bad one to be seen, on the minimum of medication, if any, in superb, light, airy buildings.

I commented on this the next day, to Paul Willis, of the Niman Ranch Pork Co (at the premium end of the market) and, I think, upset him a little. However it had been confirmed to me that for the premium end of the market to exist, the commodity end must be viable. Premium, organic or whatever that niche of the market may be needs to command a higher price owing to a higher cost of production. Only a portion of the consumers are willing or able to pay that price. The campaigning stance of some organisations seeks to undermine commodity production in order to improve their prospects. If they were to achieve their apparent aims, then there would be no premium available and production would be financially unsustainable. If commodity pork production was as good as I had seen at Brad's, or for that matter any intensive farm I visited on my tour, then there is no problem with it and such production is necessary in order to underpin the premium end of the market.

There is often little better than all out war between the various levels of production, there needs to be more awareness of the complexities of the market and that everybody has a role in it if exceeding a minimum standard. We should develop a more cooperative mentality between all types of production.

<u>Barriers to Cooperation</u>

Divide and Rule

This is a strategy commonly used to prevent cooperation, by those who have a vested interest in non-cooperation between people. If, for example a group of pig producers wanted to combine their buying power to achieve a greater bulk discount on feed purchases, a feed supplier could "pick off" maybe two producers and offer them an even better deal than that which they could get as a group. The supplier would achieve a lower total selling price than previously but not as low as if the group had succeeded.

The strategy was highly successfully employed after "vesting day" in the UK milk industry, when compulsory selling of milk through the marketing boards was ended. Producers had the option of selling through cooperatives or directly to dairy companies. Direct selling prices became universally higher than coop prices, meaning many producers sold directly. After the coops had been suitably weakened the dairies dropped the milk price to the unprofitable levels that were seen up until only the latter part of 2007. Milk prices have recovered on the back of a milk shortage resulting from a huge exodus from milk production owing to the low prices.

Therefore anyone looking to work in cooperation with others should be aware of "divide and rule" and be prepared to forego the inducements that will be offered to them in order to get the longer term benefits of cooperating.

Human Nature

Bernard Peet in Alberta had identified to me the three types of reaction he sees from producers with regard to cooperation; those who only look after themselves; those who buy right in and those who are hesitant.

The hardest personality to win over is the type that only looks after themselves; often they are best left alone as their involvement can be destructive.

The Competition Commission and the Office of Fair Trading

The Competition Commission acts in three broad areas:

• In mergers - when larger companies will gain more than 25% market share and might prove anti-competitive.
• In markets - when it appears that competition might be distorted or restricted in a particular market.
• In regulatory affairs when the major regulated industries in the UK may not be operating fairly.

Their powers, following an open investigation can prevent mergers going ahead, or force the selling of part of a purchased business to a competitor (for example Case/New Holland had to sell their Doncaster tractor manufacturing plant to an Italian competitor).

The cases looked at by the Competition Commission have to be referred to them by another government department, the Office of Fair Trading. This body's role is to make markets work well for consumers.

A recent case, where two major food retailers were found to have colluded with two dairy companies to keep the retail price of milk up, according to those involved to help dairy farmers, although at the time the prevailing ex-farm milk price would tell a different story. An attempt to alleviate the cost/price squeeze in the pig industry in the autumn of 2007 was hampered by the retailers fear of being brought to book by the OFT. To overcome this, negotiations with retailers had to happen separately, which considerably drew out the length of the process.

Cooperation Theory

Dawkins (1989) looks at cooperation in evolutionary terms in the animal kingdom, looking at the work of Axelrod (1984).

Axelrod used an obscure gambling game known as "The Prisoner's Dilemma", where there are two players. Each player "throws" simultaneously, making one of two choices; cooperate or defect (in the terms of the original game; "spill the beans" or "keep your trap shut"). Therefore there are four possible outcomes:

- One player wants to cooperate; the other to defect, the defecting player gets the maximum “prize”, the cooperating player nothing. Of course, money is the prize in the gambling game.
- Both players agree to cooperate; the prize is split equally between them. Crucially the total prize to both players is equal or greater than the individual prize in the first option.
- Both players defect (or keep quiet). The prize is zero or somewhat less than the prize available for cooperating.
- The fourth outcome is the reverse of the first, the players’ choices being switched.

Player B

Player A	Cooperate	Defect
Cooperate	Fairly good £ Both players	Very bad £ Player A Very good £ Player B
Defect	Very good £ Player A Very bad £ player B	Punishment £ Both players

Figure 1: **The Prisoner’s Dilemma Game** (Axelrod 1984)

The parallels of this game with cooperation between businesses in real life are clear. Producers that work together can achieve more than they can individually. A business can be tempted to “plough its own furrow”, by the temptation of greater benefit to itself by not cooperating (being divided and ruled). However, the consequences of nobody cooperating are most serious, there being no benefit to anybody.

Dawkins uses this model to expand on evolutionary theory; such examples can be seen everyday in the animal kingdom, for example in symbiotic relationships such as the bacteria in a ruminant animal, each species being dependent on the other for its survival. This also explains the evolutionary reasons for the herding instinct seen in many species.

Axelrod played many throws (iterations) of the game with other academics suggesting different strategies for use in computer simulations. The more cooperative strategies universally came out on top even after a second tournament allowed more intelligent and even downright dastardly strategies to be employed. When the game was played by human beings, rather than computer models, the points scored were among the lowest, as the game soon deteriorated to envy and the settling of old rivalries.

In real life though, the principles of the game have been seen everywhere. The simple theory has been credited as an answer to world peace, if not climate change. Quite simply, the overall benefits to an industry of everybody in it cooperating far outweigh the benefits available if everybody fails to work together. This is known as “synergy” and to synergize is one of the “Seven Habit’s of Highly Effective People” according to Covey (1989) and along with to “think win/win” make two out of the seven “habits” directly attributable to cooperation.

Thinking win/win involves an attitude of mind that seeks mutual benefit in all human interactions, in which all parties feel good about the decision and therefore committed to it and anything resulting from it. To reach this outcome requires integrity, maturity and the abundance mentality, that there is plenty out there for everyone (rather than the "pie is only so big" scarcity mentality).

Synergy involves the benefits of participants working together being greater than the benefits of working alone, as has been seen in many of the cooperative ventures visited. According to Covey's theories, trust as well as cooperation is required to produce synergies.

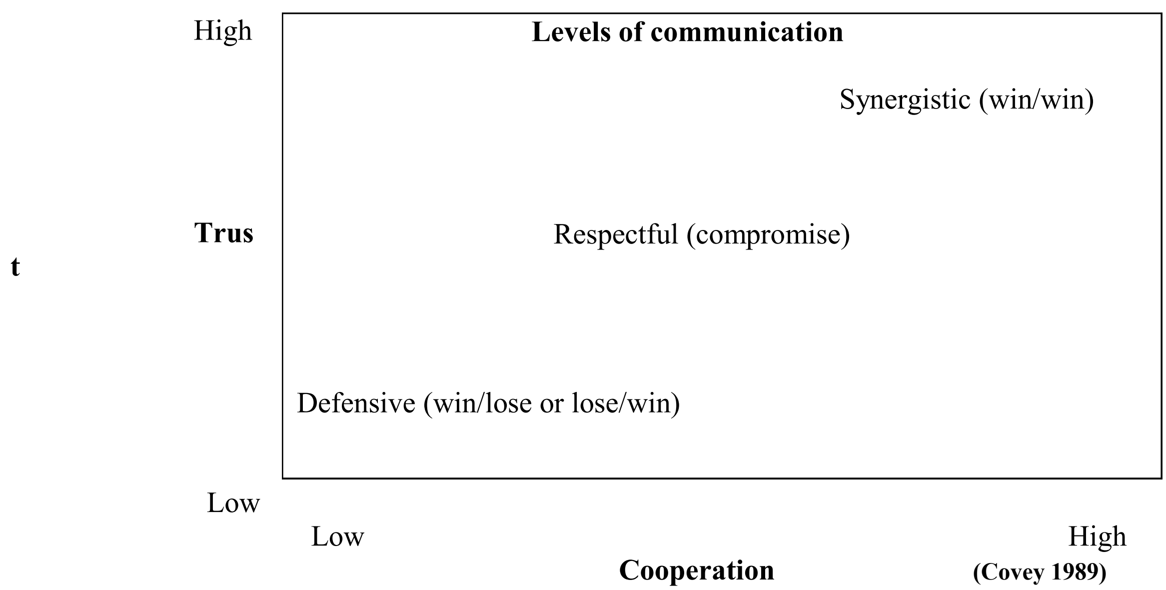

Figure 2: The Relationship Between Cooperation, Trust and Communication.

Low trust situations involving defensiveness, protectiveness and legalistic language to cover all eventualities and can only produce win/lose situations. The middle situation, respectful communication is where there is respect for each other but a tendency to avoid confrontation. No creative possibilities are opened up. In a synergistic, win/win situation, the parties have opened up, prepared to give a little and ended up with an outcome that neither thought possible at the outset.

<u>Help and Advice for Cooperative Ventures</u>
The English Food and Farming Partnership

Following the 2001 foot and mouth disease outbreak UK Agriculture was suffering a serious crisis of confidence. A Policy Commission on Food and Farming was set up to recommend to the government the future direction of the food and farming industry. One of the recommendations of the report produced (Curry et al. 2002) was that there should be more cooperation between producers and between all elements of the supply chain.

The English Food and Farming Partnership (EFFP) was formed as a result of this report to aid and encourage cooperation between farmers and collaboration through the supply chain. Funded from various sources including money from government and the industry, there is a network of regional advisors able to offer good impartial advice on all aspects of setting up such a venture, including the business and financial structure of a proposed venture as well as mentoring through its establishment.

CONCLUSION

Negative Statements

We are constantly told that we "are just not cooperatively minded" that "getting pig producers to cooperate is like herding cats" and that "we are big enough in the UK not to need to cooperate". Patently we can and do cooperate in the UK pig industry as shown in examples earlier in this report. However we do not cooperate enough.

Negative statements often emanate from those who think that they stand to lose from further cooperation, often the same people who successfully employ "divide and rule". Those people however may actually benefit from more cooperation as it is in their interest ultimately that there is a strong UK pig industry.

The Benefits of Cooperation:

Increased Production Efficiency/Reduced Cost of Production

This can be achieved in a number of ways. At the simplest level, producers pooling their buying power can result in quantity discounts on major inputs; usually feed but often other inputs such as genetics and sundry supplies.

With high pig health the key to high productivity, some of the most successful cooperative ventures have health at the core of their being, from the start of PIC, hysterectomy derived, disease free stock being the foundation of the company's success, to the large operations of the USA, where business models such as the Pipestone System, have the management of health at the heart of their existence.

In mainland Europe the fact that the main genetics suppliers are farmer owned coops ensure that the companies remain focussed on the needs of their customers. That must be an explanation why the European pig industry has such higher performance than the UK. There is no drive for short term profits at the expense of product development and quality as the firms are owned by their customers.

Product Uniformity

The Danish pig industry achieves major competitive advantages in its export markets by producing a consistent product. This has been achieved by cooperation on a national scale. With a few exceptions, the same genetics are used throughout the Danish pig industry, ensuring little variation. The production systems used are similar across the board also.

Those principles have been employed in the UK in a production chain largely owned by the Danes. The supply of pigs into the retail chain Waitrose relies on uniform genetics, feed and types of production system to achieve a consistent product, commitment from the supply base results in commitment from the retailer.

Access to Markets
One producer, acting alone, has little or no marketing clout. The large retail customers need a large and consistent supply of product. In the UK this is typically achieved by processors buying pigs from a disparate body of producers on a variety of contracts, sending pigs of a variety of shapes and sizes, from that the processor hopes to be able to supply their retail customer with enough product of a good enough quality to ensure their repeat business.

Producers working together to manage their supply in terms of quantity and quality can give significant advantages to the end user. The US business of the Niman Ranch Pork Company achieves this at the premium end of the market. The Canadian Farmer owned Sunhaven brand gained access to the Japanese market through the scale of their operation, as well as being able to offer something different, in terms of fat colour and production system.

Social Benefits
Farmers can feel isolated enough, even in the crowded British Isles. The vast areas of the prairies of the USA and Canada are much more sparsely populated. By working and investing together these feelings can, to a large extent, be alleviated. By being part of something that is big and even growing, the owners can feel fulfilment. By seeing something worthwhile, with a future, some of the next generation can see a future for themselves in agriculture. It is well publicised that there is opposition to intensive livestock development in many of the US states. Some parts of some states are however actively courting big operators such as Pipestone to come to their areas as they can see the economic and social benefits that they can bring.

The word "sustainable" is often over and misused. Nothing is sustainable if it is not financially viable or even profitable. Cooperation can recapture some of the lost profit in farming and return it to the communities producing food and maintain the viability of communities.

Factors contributing to the success of a cooperative venture:
A list of the features of successful coops visited.

- Full commitment from the participants.
- Adequate capital.
- Operating in a harsh marketplace.
- Clear, shared aims and aspirations of the participants.
- Good leadership.
- Financial success.
- Correct capital structure.
- Growth of members' capital.
- Low start-up capital.
- Good communication.
- Participants operating their own, distinct businesses.
- Uniformity of inputs.
- Uniformity of size.
- Clear procedures for crisis management.
- Small enough for all participants to be represented at board level.
- Liquidity of capital.

RECOMMENDATIONS

For individual producers:

- Talk to your neighbours, we are not competitors; we are all in this together.
- Examine your personality, if you need to think a bit differently in order to cooperate, do it.

For groups of producers looking to cooperate:

- Start by sharing knowledge and business details with similar businesses, in confidence. If you can't do this you will fail at the first hurdle.
- Be aware of the power of "Divide and Rule" and don't succumb to it.
- Do not allow perceived potential problems stand in the way of progress. Such problems can be overcome and it good to get them out of the way at the outset.
- Think freely and "outside the box" at what could be achieved through cooperation, the permutations are endless.
- Don't look for reasons not to cooperate, look for opportunities, what can be achieved and then see how potential challenges can be overcome.
- Think long term. Five years is not long term.
- Do not be influenced by availability of grants. Let a project stand on its own merits. If grants are available that is merely a bonus.
- Take advice, especially from the English Food and Farming Partnership (EFFP).
- Strong leadership is needed, farmers are rarely good at running a large business, import the skills necessary and be prepared to pay them well for doing a good job.
- Communicate effectively.

For the UK industry as a whole:

- Get behind the "Quality Standard Mark". It is rapidly becoming the UK brand, highlighting our high standards of animal welfare and food safety, with continuing improvement.
- We have very good representative and levy organisations. If you don't like them, get involved.
- Suppliers and processors should cease to "divide and rule" pig producers, either deliberately or inadvertently. A strong pig industry is in their interests as well.
- Marketing groups should stop squabbling among themselves and work to secure a better future for their producers.
- We need all types of production to cater for all types of consumer. All types of producer should refrain from trying to do each other down, there is room for all of us and we need each other to maintain our individual niches.
- The UK has among the highest welfare standards in the World. We are the best country in the world for outdoor pig production. Northern European countries have a niche market for meat produced to high welfare standards, that market will grow. Likewise the USA also has a growing premium market. Let's cooperate to take advantage of these facts. Let's be on the offensive rather than defensive.

If we as producers ever get to a point that alerts the interests of the Office of Fair Trading and the Competition Commission, we might have achieved something.

POSTCRIPT

The huge rise in the price of cereals during 2007 has had a dramatic effect on the economics of pig production throughout the world. Generally it will take a reduction in output of pigs to cause the supply/demand balance to alter the price up to a sustainable level.

That statement rather glibly covers up the heartbreaking financial pressures and bankruptcies that come with forced exits from the industry.

Having had the privilege of seeing some excellent examples of cooperating groups of pig producers, I had hoped to see more examples than I did find of collaborative supply chains. The best one I know of sits right under my nose, for I am one of its producers. I had and to some extent still do have, aspirations to cooperate at a greater level with my neighbouring outdoor pig producers. In the quest to become less of a “price taker” and more of a “price maker” as a pig producer, focus must be on the market. As I think that I am already supplying one of the best customers in the business in Waitrose, then that is where the focus of my business must be. The group of suppliers are looking at ways of cooperating more as a way to reduce production costs. The actual outcome of this is currently unclear and inevitably, as perhaps over 80% of the production comes from one supplier, owned by the processor progress tends to be dominated by them. I have been pleased to have shared my experiences with the others although my having had the benefit of my Nuffield scholarship means that I am perhaps somewhat keener on the possibilities than some of the others.

I have also been pleased to have been able to share my enthusiasm for cooperation with various pig discussion groups. I hope that these talks might spark the start of something somewhere.

Cooperation is an attitude of mind; it does not necessarily mean the formation of a cooperative venture. It is a means to an end, rather than an end in itself. By cooperating, the strength of the participants is multiplied to be greater than the sum of the participants’ abilities. As long as the business plan is robust and the vision clear, then the success can be great. If the plan is weak and visionless, then cooperation can be a faster way to failure than operating individually.

APPENDIX 1

PORK POWERHOUSES 2007
The 20 Largest Pork Producers in the US

Rank	Name	Headquarters	No. Sows	Ownership
1	Smithfield Foods	Smithfield, Virginia	1 227 000	Corporate
2	Triumph Foods	St. Joseph, Missouri.	403 700	4 companies, joint processor.
3	Seaboard Foods	Shawnee Mission, Kansas	213 600	Involved in Triumph (above)
4	Iowa Select Farms	Iowa Falls, Iowa	150 000	
5	Prestage Farms	Clinton, North Carolina.	142 000	
6	The Pipestone System	Pipestone, Minnesota	135 000	Farmer group owned breeders.
7	The Maschhoffs Inc.	Carlyle, Illinois	115 000	Family owned
8	Cargill	Minneapolis, Minnesota	107 000	Corporate
9	AVMC Management	Audubon, Iowa.	95 000	Various
10	Maxwell Foods, Inc.	Goldsboro, North Carolina.	85 000	Corporate
11	Tyson Foods	Springdale, Arkansas	70 000	Corporate
12	Hormel Foods	Austin, Minnesota	63 000	Corporate
13	Progressive Swine Tech.	Columbus, Nebraska.	55 200	Private, with venture capital
14	Nebraska Pork Partners	Columbus, Nebraska.	50 000	Producer group owned
15	Hatfield Quality Meats	Hatfield, Pennsylvania	41 000	
16	Wakefield Pork	Gaylord, Minnesota	41 000	
17	Holden Farms	Northfield, Minnesota	37 000	Family owned
18	Whitestone Farms	Burnsville, Minnesota	35 000	
19	Texas Farms	Perryton, Texas	34 000	
20	Coharie Farms	Clinton, North Carolina.	33 000	

(Successful Farming 2007)

APPENDIX 2

Tour Itinery

February 2006
2006 Nuffield Scholars briefing and International Congress; London and Utrecht.

May 2006
Annual BOCM Pauls pig study tour. Romania.

October 2006

Independent tour to Canada and the USA.
Canada; Rocky Mountain Pork (Lacombe AB), Blue Diamond Pork (Lacombe AB), Alberta Pork (Calgary and Edmonton), Scotford Colony of Hutterite Brethren (Fork Saskatchewan AB), Perkins Farms and Sunhaven Farms (Wainwright AB), Sunterra Farms (Acme AB).
USA; Chicago Board of Trade, Rapp Farms (Illinois), Huebber LLC (Illinois), J. Becker (Dyersville, Iowa), Pipestone Veterinary Clinic (Pipestone, Minnesota), Sunterra/Sunwold (Rock Valley, Iowa), Bart Ruth Farms (Rising City, Nebraska), Nebraska Pork Partners (Columbus, Nebraska), Wilke Farms (Leigh, Nebraska), Agvantage/Double Diamond Farms (Fremont, Nebraska), Niman Ranch Pork Company (Thornton, Iowa), Dr. Temple Grandin (at University of Iowa, Ames), Carthage Vet. Clinic (Carthage, Illinois), Dr Larry Firkins (University of Illinois, Champaign), The Maschhoffs Inc. (Carlyle, Illinois), Coastal Plains Pork (Harrells, North Carolina), Faringdon Pigs (Norfolk, Virginia).

April 2007
Short trip to Rheims, France.
CRZA, INZO, research facility, "Gaec du Paradis" and other farm visits.

September 2007
Salon SPACE, Rennes, France.

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