



Nuffield Farming Scholarships Trust

A BEMB (R & E) Trust Award

The 2012 EU ban on conventional cages and its effect

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Contents

Chapter		page
	Summary	1
1.	Introduction	
1.1	Personal	2
1.2	Objectives of this study	2
1.3	Methodology	2-3
2.	Background	
2.1	EU Laying Hens by System of Production in 2009 (Chart A)	4
2.2	European Egg Industry	5-6
2.3	History of the EU decision to ban conventional cages	6
3.	Drivers of Change	
3.1	Legislation	8
3.2	Socio-Economic	8
3.3	Markets	8
4.	Possible Effects on the EU Egg Market	
4.1	Under supply	9
4.2	Over supply	9
5.	A European Study	
5.1	Countries visited	10
5.2	Germany	10-12
5.3	Poland	12-13
5.4	Italy	13-14
5.5	Romania	15-16
5.6	France	16-18
6.	A Worldwide Study	
6.1	Countries visited	19
6.2	Canada	19
6.3	China	19-24
6.4	USA	24-28
7.	Animal Welfare Legislation - Impact case studies	
7.1	California USA - Proposition 2	29-30
7.2	The UK Pig Industry	30-31
8.	Risk Management	
8.1	How do we protect our Market?	32
8.2	Unforeseen effects (What's around the corner)	32
8.3	Managing Volatility (Canadian Quota system)	32-33
9.	Conclusions	34-35
10.	Recommendations	36-37

continued on next page

11.	Actions speak louder than words	38
12.	Terminology	
12.1	Terminology and descriptions of egg production systems	39-40
12.2	Understanding Egg Codes	40
13.	Acknowledgments	42
14.	Appendices	
14.1	IPPC	43
14.2	Moulting	43
14.3	SAPARD	43
14.4	Sandstorms in Beijing	44-45
14.5	Promar International	45
14.6	Dr Peter Hunton and EUP	45
14.7	Sample questionnaire	46-47

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

Summary

EU Council Directive 1999/74/EC prohibits the use of conventional cages (commonly referred to as 'battery cages') for laying hens by 1st January 2012.

This report sets out to study the possible effects of the ban, primarily on the UK egg Industry.

In mid 2010 it was widely predicted that up to 29% of the EU laying flock could still be in conventional cages on 1st January 2012. This is in part due to cultural differences within the EU towards food and animal welfare, but the main factor impeding progress towards compliance is the confidence and ability of some producers, to raise the finance required to reinvest in production facilities.

Until early 2010, the perceived wisdom was that EU egg supplies would fall as producers, not able or willing to invest in compliant systems, left the industry. However just six months later, over supply is considered to be more of an issue as many producers with conventional cages continue in production up until the 2012 deadline and perhaps beyond.

Over the short term, bird numbers will continue to fluctuate as production from conventional cages overlaps with production from new compliant facilities, causing an imbalance in supply and therefore market volatility. Production from non-cage systems continues to rise and concern about over supply in the non-cage sector, and its effect on the general market, is becoming an issue.

Protectionism is now top of the agenda for the UK and other compliant member states who are concerned about the import of eggs from 'illegal' cages post 1 January 2012.

Eggs remain an excellent source of affordable protein and Governments in lower socio economic countries (e.g. Romania where the average family income is €250 per month) will not enforce the ban to avoid creating further volatility and potential food shortages locally.

The EU industry will continue to polarise and the bigger operators will squeeze smaller businesses as they take larger shares of the market under their control.

Due to the EU ban on conventional cages, the trend towards globalisation of commodity supplies will accelerate which will create further opportunities for differentiation for the smaller market driven operators.

Beyond 2012, trade liberalisation will further add to the loss in competitiveness of the EU egg industry as more eggs are consumed through products containing egg, potentially produced outside the EU.

1. Introduction

1.1 Personal

I jointly own and manage Chippindale Foods Limited, a family business based in Harrogate, North Yorkshire, specialising in the production, grading, packing and marketing of eggs. The business continues to evolve and is a modern, flexible, market driven business built on traditional values of honesty and integrity.



With a passion for design, I gained a BA (Hons) degree in Industrial Design from the University of Northumbria in 1992 which helped foster a practical problem solving and 'continuous improvement' approach to the business. However, like all egg businesses within the EU, we now face uncertainty due to pending legislation (changing the way laying hens are kept with a ban on conventional cages) coming into effect on 1 January 2012.

Faced with the biggest change to the EU egg industry in a lifetime, managing a growing and demanding business and with three young daughters needing support and guidance, what better a time to embark on a Nuffield Scholarship! 'There is never a good time to do a scholarship' (quote John Stones) - I applied and have never looked back (I have never had time to!)

I hope that others reading this report will also realise that there is rarely a 'right time' to embark on a Nuffield Scholarship and apply for this fantastic lifelong learning opportunity: not only via the study tour itself but subsequently by becoming involved in the various Nuffield Groups.

1.2 Objectives

The objective of my study is to gain a broad understanding of the issues we face in the EU egg industry in the lead up to the ban on conventional cages. Apart from welfare legislation other factors will continue to influence the egg industry beyond 2012. My study will provide the opportunity to identify key drivers of change and aims to recognise market threats and opportunities. I anticipate that the wider experience of a Nuffield Scholarship will give me the scope to develop personally.

I envisage that this study will provide my business with a more balanced longer term view of the egg industry, and bring a more measured approach to our strategic plans in the medium term.

1.3 Methodology

It soon became apparent that my topic was very significant and that opinions varied as the situation evolved. Therefore, I designed a simple questionnaire in order to put a marker in the sand and to better gauge changes in opinion against the market background. (A sample questionnaire can be found in the appendix 14.7, pages 46-47).

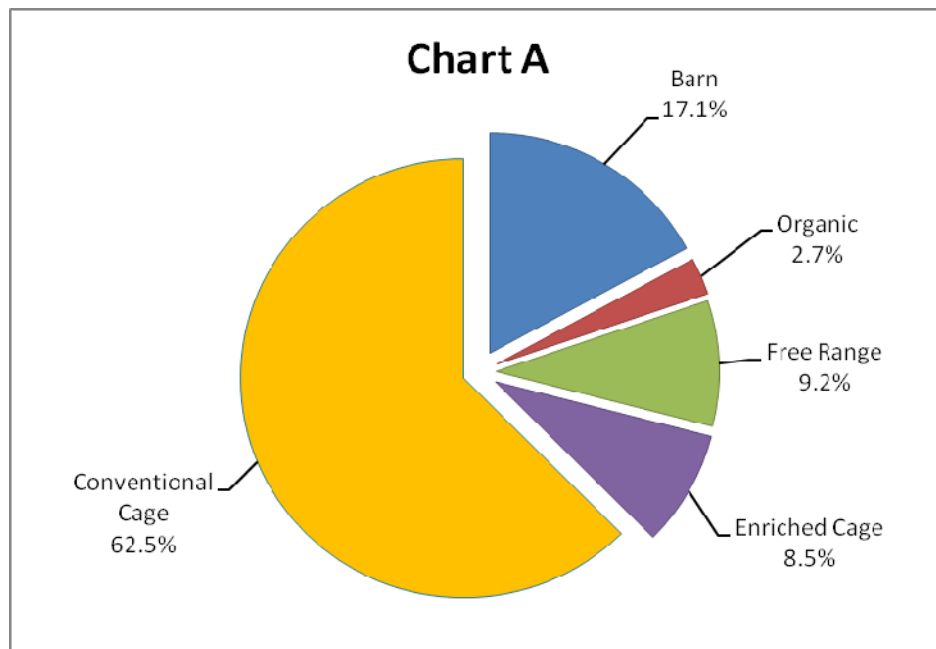
My study started in the UK where I witnessed an industry very accustomed to dealing with regulation. The effect of the 'British' approach to legislation has resulted in an industry with standards in animal welfare and food safety well beyond current EU law. This has mainly been facilitated through the 'Lion' code of practice, which lays down strict standards for its members, and in my opinion has created one of the safest and one of the best egg industries in the world.

UK research during the summer of 2009 revealed a predominant view that production in the UK and across the EU would decline in the approach to 2012. (See sample questionnaire, appendix 14.7, pages 46-47). Paradoxically a year later the predominant view is that over-production, specifically in the free range sector, is a more likely consequence.

Further study in Europe began with visits to Germany and Poland, followed by Italy and Romania and finally to France with the Nuffield Poultry Group.

2 Background

2.1 EU Laying Hens by System of Production in 2009 (Chart A)



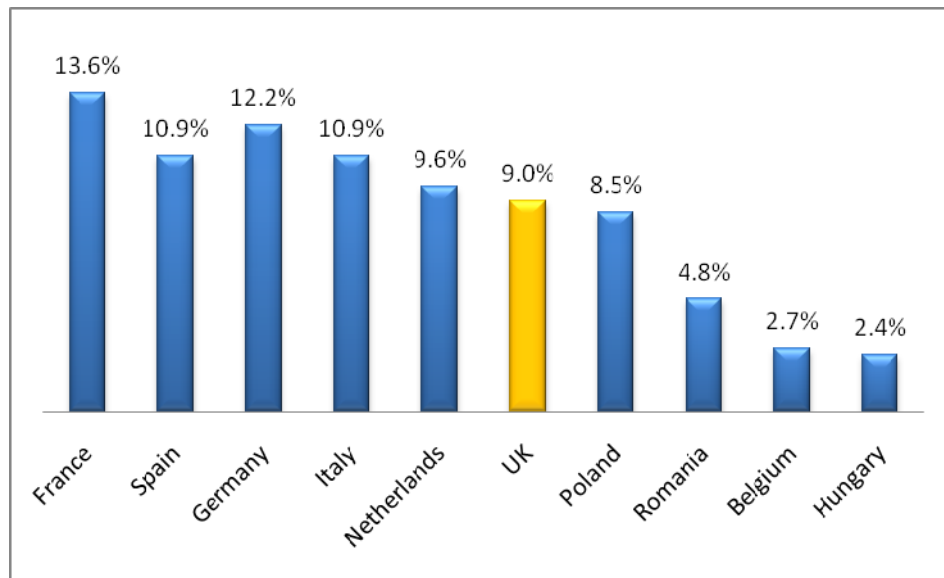
(Source EUWEP/from DG AGRI data – Updated 28th May 2010)

In mid 2009, there were estimated to be approximately 220 million birds in conventional cages out of a total of 353 million commercial birds in the EU. The cost to rehouse this number of birds in 2012-compliant facilities is estimated to be in the region of 6 billion Euros.

2.2 The European Egg Industry

The EU egg industry is diverse and broad with each member state having a unique situation in terms of size, development and market.

The top 10 egg producing member states in 2007 by volume and their respective market share.



(Source IEC FAO-database)

At the other end of the scale, Cyprus, Malta and Slovenia collectively contribute to less than half a percent of the total volume.

In 2007, there were almost 400 million layers in Europe, which represents 13% of the world's egg production. Over the past decade, the EU contribution to global egg production has reduced as Asia has become the dominant egg producing continent.

Despite a huge range of diversity, the 27 member states can be broadly grouped together into three sectors.

- 1) The Scandinavian member states - who would like the Directive to be implemented as soon as possible in order to redress the cost imbalance between themselves and other member states (which still have a high proportion of conventional cages in relation to themselves.)
- 2) The Northern member states - including the UK, Germany, and the Netherlands who believe in meeting market demand for non-cage eggs, which already account for a sizeable proportion of production.
- 3) The Southern and Eastern member states - which are generally opposed to the Directive and would like more time and/or government financial support in order to comply.

The EU Egg Industry is already heavily legislated in several areas.

- Firstly, salmonella testing is now compulsory in the EU with tests having to be conducted every three weeks.
- Secondly, environmental legislation aims to further reduce the threshold which triggers the need for an IPPC permit. (See appendix 14.1, page 46 for further information on IPPC)
- Thirdly, and currently the most important, is laying hen welfare.

2.3 History of the EU decision to ban cages

In 1996, The European Commission's Scientific Veterinary Committee condemned the conventional cage, concluding:-

"It is clear that because of its small size and its barrenness, the battery cage as used at present has inherent severe disadvantages for the welfare of hens".

In 1999, The Directive 1999/74/EC was adopted, banning the use of conventional laying cages in the EU from 1 January 2012 only permitting 'enriched' cages, barn, free range or organic systems thereafter.

(For further information see terminology and descriptions of egg production systems 12.1 pages 42-43)

Article 10 of the Directive required that no later than 1st January 2005 the Commission was to submit to the European Council,

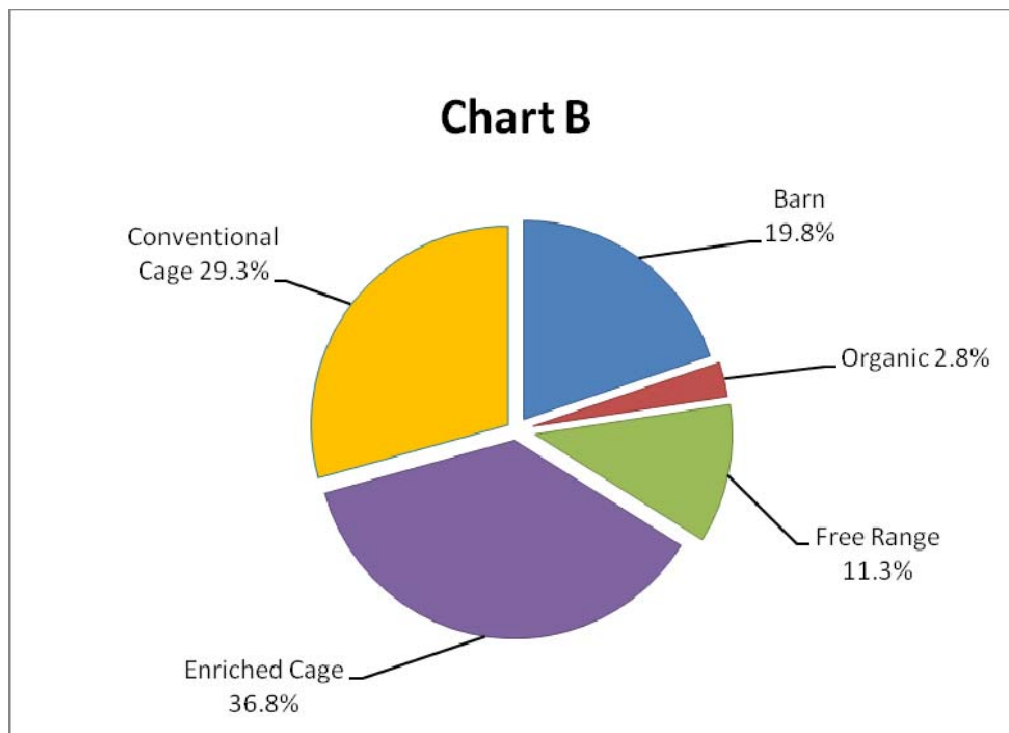
"a report, drawn up on the basis of an opinion from the Scientific Veterinary Committee on the various systems of rearing laying hens, and in particular on those covered by this directive, taking account of both the pathological, zootechnical, and ethological aspects of the various systems and of their health and environmental impact".

"That report shall also be drawn up on the basis of a study of the socio-economic implications of the various systems and their effects on the community's economic partners"

This report in fact was not made until 8th January 2008 and no recommendations for subsequent change were made. The Directive would not be altered and would become effective on 1st January 2012. Member states would be allowed to pass stricter regulations and 'gold plate' the Directive.

Germany is one country that *has* 'gold plated' the directive, banning conventional cages from 1 January 2010 and enriched cages from 1 January 2012. This highlights the political success of the Green Party in Germany and shows the intensity with which animal welfare groups fought against keeping laying hens in conventional cages. The use of conventional cages is also banned in [Switzerland](#) (since 1992), [Belgium](#), [Austria](#), [Sweden](#) and the [Netherlands](#).

2.4 The Predicted EU Laying Hens by System of Production in 2012 (Chart B)



(Source EUWEP – Updated 28th May 2010)

Chart B shows the predicted number of EU laying hens by system of production in 2012. From a total flock of 353 million commercial birds, it is widely predicted that, in 2012, 29% will still be in conventional cages.

Other assumptions are an increase of barn production to 70 million hens, almost 20%, and an increase in free range to 40 million hens, 11.3% of the total EU flock.

3 Drivers of Change

3.1 Legislation

Legislation forms a vital role in any democracy, although other factors influencing change become equally important, especially in the production of food. Regarding the EU ban on conventional cages some countries governments are more likely than others to enforce legislation, due to additional drivers i.e. socio economics and market dynamics.

3.2 Socio - Economic

Lower socio economic groups in Europe are generally less likely to be concerned about animal welfare and more likely to be concerned about food security. This certainly appears to be the case in newer EU members e.g. Romania, where it is unlikely that governments will enforce a ban on certain methods of food production and jeopardise national food security.

3.3 Markets

All markets need confidence in order to operate effectively. Following the 1999 ban on tethers and stalls in the UK, pig producers lost confidence in the industry and in turn reduced their level of reinvestment, causing further decline in their competitiveness.

Markets are influenced by several factors and no two countries in the EU are completely alike.

A key influence on food markets, especially in the Northern area of Europe, is the Supermarkets. They respond quickly to changes in consumer needs, altering their buying patterns and merchandising policies accordingly. The retail market is very competitive, leading them to constantly seek new points of difference and alternative positioning. This has been witnessed in several UK retailers, and notably in Marks & Spencer who committed to 100% free range egg in all their products from 2002: a move that gives a great PR story and provides their customers with peace of mind and plenty of feel good factor.

A combination of pricing strategy, environmental impact, animal welfare, food safety, government legislation and consumer trends will continue to shape food industries. It is impossible to imagine that the different drivers of change in relation to banning conventional cages will evolve in unison across all EU member states.

4 Possible Effects on the Market

It appears very unlikely that, at the start of 2012, we will have a balanced market for shells eggs and egg products. The more likely situation is one of under supply or over supply.

4.1 Under supply

If all EU member states enforce legislation then there will be up to a 29% shortage in supply. This shortfall can't be replaced by imports from non EU countries as only Switzerland, Croatia and Norway are permitted to export eggs to the EU (due to EU's salmonella legislation) and do not have sufficient surplus volume to make any impact.

As a result prices would rise and consumption fall as consumers move to alternative protein sources.

4.2 Over supply

If the legislation is not enforced and more time is given to convert from conventional cages then over-production will occur as conventional cages will stay beyond 1st January 2012. This is likely to cause widespread market volatility and severely affect the viability of many businesses in all systems of production.

A potential consequence of over supply is that those countries that have complied with the legislation, but remain net importers of eggs, will be under threat from cheaper imports of eggs potentially produced under illegal systems. This is potentially the biggest threat to the UK industry.

5 A European Study

5.1 Countries Visited

The primary aim of my European study was to gauge the level of compliance towards the directive. Additionally it was to identify market trends and any innovation within the egg sector.

The countries I chose to visit were:

Germany - due to their own Government banning conventional cages in January 2010 (two years in advance of the EU directive) Germany is the test case;

Poland - a large egg producing country, geographically well situated to export into several EU member states;

Italy - 'perceived' as unlikely to fully comply with the Directive, I was keen to hear first hand their thoughts on the ban;

Romania - as I also wanted to visit a country that had recently joined the EU and:

France - one of the largest producers in the EU.

5.2 Germany

In Dusseldorf, I met with the egg buying team of Real, a large German supermarket, who confirmed that the majority of their customers don't want eggs from caged hens of any sort and view both enriched cages and colony systems as just 'big cages'. The shift to non-cage eggs in Real stores alone is equivalent to the production from over 1 million birds and demonstrates the massive swing from cage to barn.

The German retailers consider that egg coding confuses many consumers and address this by having leaflets at point of sale explaining the coding system along with information explaining how eggs are produced and where they come from.

Conventional cage to barn egg production

In Bavaria, I visited several farms which had recently been converted from conventional cage to barn egg production. One ex-cage farm had effectively increased their production by creating a two tier barn system to house over 70,000 hens. Despite the high density of birds, the air quality in such units is good because ammonia levels are kept low by the daily removal of manure. In order to comply with strict environmental legislation, ventilation systems are required to exhaust through a vent shaft 1.5 metres above the top of the building.

Rearing for non-cage systems

In order for birds to produce to their full potential in non-cage systems it is vital that pullets are 'trained' to perch and become familiar with drinking and feeding systems. A large rearing operation in East Germany uses a system with height adjustable feed and water supplies to encourage chicks to perch from an early age. Once familiar with perching, the feed and water is cut off at lower levels which forces the birds to move up the levels and become better accustomed to the system. Rearing both white and brown birds together also helps 'train' the birds because white birds effectively demonstrate to the more docile brown birds, how to perch at a younger age. Beak tipping is carried out at 10 days old by specialist teams who have a government permit. Pullet body weights and evenness, together with effective vaccination, are also critical to successful production.

Marketing shell eggs in Germany

A Cooperative marketing organisation based in East Germany collectively supply almost 25% of the German shell egg market (over 1 billion eggs per year.) Low 'food miles' remain an important USP as eggs are marketed on provenance and where possible travel the shortest distance from farm to store. The market for boiled and painted eggs remains strong especially in the run up to Easter when sales increase significantly.



Freshly boiled and painted eggs

Gregor Zimmerer, a key member of the Cooperative, purchased the site on which the packing operation runs in 1990, following the reunification of Germany in 1989. His family company, Salmat, also purchased a manufacturing facility in East Germany to increase production of its own poultry equipment. Salmat equipment is extensively tested at their own farms; their latest non-cage production site is a huge building, split into 2 x 50,000 bird units, sharing a central egg collection area. A maximum of 50,000 birds can be declared free range in a unit of this size because the area of land that needs to be allocated is used up, therefore the second 50,000 flock is designated as barn.

Germany - In summary

Welfare legislation coupled with consumer demand has propelled Germany into becoming Europe's largest barn egg producer and marketer. Following their own ban on conventional cages, supplies of home produced eggs fell dramatically which led to an increase in imports in early 2010. Imports of conventional cage eggs are likely to continue, primarily to supply their egg processing industry.

Producing barn eggs costs 15-20% more than in conventional cages. As a direct result of banning conventional cages before the EU deadline, there are now 10% less farms producing eggs in Germany. An alternative approach to increase margin and cover the extra cost of production is by direct marketing. One small family business sells eggs direct to the consumer through markets and via a fleet of mobile shops. Additional value comes from other egg products including fresh egg noodles and egg liqueur produced on their farm.

5.3 Poland

There are estimated to be 30 million laying hens in Poland. However this figure could be up to 20% higher as it is believed that not all flocks are registered although this is a legal requirement. Polish farmers are taxed on the number of hens they declare and apparently it's not uncommon for cages to be overstocked. To further add to the uncertainty, most eggs from 'unregistered' flocks are apparently sold direct to local markets and may not be stamped as legally required (i.e. sold as non-cage) thereby further distorting the perceived split between cage and non-cage sales. At the time of my visit it was estimated that over 80% of Polish eggs were produced in conventional cages.

The level of reinvestment in new compliant equipment appears to be low. Indications are that a large number of conventional cages will remain in operation in the run up to 2012. There is evidence of change - a small traditional family business near Rakow, in the North West of Poland, had recently extended an existing poultry shed to house additional birds in enriched cages. Officially the cages housed 16 birds per cage giving each bird the EU requirement of 750 square cm. The house was only partially filled with hens which had been moved from another unit on site and which had recently been moulted. (See 14.2, page 43 for further information on moulting)

Request for an extension refused

The Polish Egg Industry recently submitted a formal request for a derogation to the Directive until 1st January 2017. EU ministers rejected the request, the European Commissioner for Health and Consumers wanting to be seen to uphold the intrinsic value of animal welfare in the EU. The Commissioner commented that the ban on conventional cages which was adopted in 1999 marked an important milestone in animal welfare within the EU. Proposing a postponement of the ban would be a major step backwards for the welfare of laying hens. It would also seriously undermine the credibility of the European Union to implement its laws.

Poland – In summary

In Poland, there appears very little incentive or pressure on producers to change because consumers generally buy on price. Due to difficulties in raising finance for new equipment, and a consumer base far less concerned about animal welfare than their German neighbours, it seems highly unlikely that Poland will fully comply with the directive.

The request made on behalf of the Polish egg industry for a five year derogation clearly demonstrates that Poland does not envisage that it will meet the deadline. The influence of animal welfare organisations appears low and Polish retailers generally focus on value, stocking mainly cage eggs.

5.4 Italy

In order to hear ‘first hand’ the thoughts and intentions of Italian producers, I headed to Forli, near Bologna, the home of the Italian wholesale poultry market. Each week a committee consisting of both poultry and egg producers meets to decide on the week’s pricing for many poultry products including eggs.



The busy poultry and egg market in Forli

Attending a typical Italian lunch gave me an ideal opportunity to meet and talk with various egg industry representatives. The general thought was that there was not enough time for producers to convert to new systems, and finance would be difficult to secure, because many producers were still paying for existing conventional cages. It was highlighted that over-supply could be an issue in the run up to 2012 because many small producers would remain in production until they were forced out, or the market crashed.

continued overleaf

‘Enrichable’ cages

Almost half the Italian egg industry is based in the North of Italy where I visited a family business producing and retailing cage eggs. The farm consisted of two large ‘enrichable’ cage units which were erected in 2005 with the view to becoming enriched before the 2012 deadline.

In order to convert to 2012-compliant enriched cages, a number of alterations need to be carried out, including:

- Removal of cross partitioning.
- Installation of steel supports to help maintain the stability of the floor section.
- Installation of a nest box.
- A hole drilled into the feed trough (to provide material for the birds to scratch and dust bath – a natural bird instinct)
- Installation of an egg saver and jog motor (both optional)

The modification results in a cage width of 2400cm and depth of 630cm housing up to 20 birds. This results in a 16% reduction in stocking density at a cost of approximately €4 per bird (the original cost of the installation was approx €5 per bird)

Italy - In summary

My experience at the wholesale market demonstrated that the market is heavily influenced by producers. I was left with the impression that many smaller producers (which comprise approximately 25% of the industry) did not intend to invest, but would wait to see what happens to the market in the lead up to 2012, effectively ‘playing it by ear’! Larger producers would have to comply with the directive in order to continue supplying major retailers, who will not want to be seen to be breaking EU law.

In Italy fifty percent of total egg production is used in the processing industry. Liquid egg and egg powder is very much a commodity, and the cheaper the better. Therefore the prospect of receiving better returns for enriched cage eggs is unlikely as the food industry will look elsewhere for cheaper product.

I would estimate that the Italian egg industry will be between 50% and 75% compliant by 2012. The majority of smaller producers will wait to see how the market evolves before deciding when to exit.

5.5 Romania

In Romania there are approximately 3 million commercial layers housed in conventional cages, with an additional 30 million hens in ‘back yards’. These ‘back yard’ flocks are non commercial and are generally used for household consumption. In the winter, when production drops, the commercial wholesale market generally sees prices lift.

At the Romanian Ministry of Agriculture in Bucharest, Professor Ilie Van, the head of the Poultry Association, expected two thirds of ‘commercial’ layers to be re-housed by 1st January 2012 on the basis of securing a program of investment for new equipment through SAPARD (see appendix 14.3, page 46)

The general opinion of the Poultry Association was that the ban on conventional cages would reduce production within the EU and result in imports of egg products from outside the EU, (potentially Ukraine and the USA). Romania is already a large importer of shell eggs, from Bulgaria, Poland, and Hungary. Professor Van was a key figure in organising visits to major egg producers and packers in the east of Romania.

Spiros Kapopoulos, runs Mikada, an egg packing business in Bucharest supplying major retailers. Operating costs are low, with packing centre staff earning in the region of €250 - €300 per month. Eggs are generally imported from Bulgaria and larger pack sizes prove popular through outlets including Carrefour.



At the packing centre of Mikada with Spiros Kapopoulos

With a meeting arranged near Constanta, on the west coast of the Black Sea, I hired a driver to get me there. Julian, who worked during the summer as a manager for an exclusive club resort in Constanza, was unphased that we ran over a feral dog en route!

At a large egg producer and packer based in Lumina near Constanta, two of its directors were keen to know more about my Nuffield role although slightly anxious that I was there to investigate. My questionnaire, pre-prepared in Romanian, proved difficult for them to respond to as there appeared to be a lack of understanding of the 2012 legislation. Therefore, a large proportion of the meeting was used to explain the difference between conventional cages and enriched cages, as well as non-cage systems. It was a challenge to get them on side, but explaining and giving advice on the evolving situation proved to be one of the most fulfilling meetings to date. After 2 hours of discussion, they were very happy to show me their packing centre, which had recently been refurbished. I was shown samples of packaging, including their best seller, a 30 egg pack!

Heading North to Braila with my trusted driver, the road ran out, unbeknown to Julian, so we had to board a boat, cross a wide river and rejoin the road at the other side!

Eventually arriving at Agrimon, I met Mr Monaldi who was very understanding of my tardiness. Mr Monaldi runs Agrimon in Romania as well as other production and processing operations in Italy. He shared the same opinion as Professor Ilie Van, estimating 2 of the 3 million commercial hens in Romania would be converted into compliant systems by 1 January 2012.

Mr Monaldi was less concerned with technicalities but more about market opportunities and had invested in a new egg processing facility near to one of his Romanian farms in order to supply a large food manufacturer with a specified product on a long term contract. Mr Monaldi highlighted that there are opportunities to move into non-cage systems, and indicated that a large producer in Italy had recently invested in facilities for several hundred thousand free range birds with a view to exporting into Germany.

The ongoing market situation in the EU remains difficult to predict but the possibility of eggs entering the EU from non EU countries remains a threat. Mr Monaldi was not particularly concerned about who would and who would not comply with the legislation but more in the opportunities that it created and how a bit of quick thinking could maximise those opportunities.

Romania – In summary

Out of all my European visits Romania was the most difficult country in which to pre-arrange meetings, but once I had met with Professor Van at the Ministry of Agriculture, doors started to open. On meeting two large producer/packers, I was surprised at the complete contrast in the level of understanding about the requirements of the directive. I particularly enjoyed meeting Mr Monaldi, clearly a successful businessman with an inspiring entrepreneurial spirit.

The market in Romania is very different to the rest of Europe because the majority of eggs are produced by 'backyard' flocks and sold through local markets. In the big cities, where supermarkets are becoming more common (Carrefour in Bucharest, for example), many eggs are supplied by small packers, although eggs are imported from Poland and Bulgaria. The most important factor for the consumer in Romania is price and larger pack sizes (18 – 30 eggs) are the most popular. Animal welfare considerations appears to have very little influence on the consumer when purchasing eggs.

5.6 France

As a member of the Nuffield Poultry Study Group, I visited France, a major EU producer of eggs with the majority of production based in Brittany.

The downturn in the economy has reinforced the French consumers' price sensitivity which has increased general egg consumption in an industry that is 98% self sufficient. Nineteen percent of laying hens are already housed in alternative systems with the majority of those eggs sold through major supermarkets.

As in the UK, smaller producers (those with 10,000 - 40,000 birds) are the ones who have the most difficult decision to make. The future of the market is uncertain, especially considering the growth in catering and food manufacturing which are more price sensitive than the table shell egg sector. (The global market for eggs used in catering and food manufacturing is predicted to rise from 50% in 2010 to 60% by 2020.)

As a group we toured farms, producer groups, industry bodies, genetics firms and research centres. All highlighted the influence of animal welfare on their business.

A visit to a Supermarket in Saint Brieuc was an opportunity to see marketing, merchandising and pricing.

6 Free Range Bio (Organic)	40 cents per egg -	- €4.80 per dozen
6 Free Range (Label Rouge)	28 cents per egg -	- €3.36 per dozen
6 Free Range	26 cents per egg -	- €3.12 per dozen
6 Cage	12-16 cents per egg	- €1.68 per dozen

At the time of the visit Euro 1 = GBP 0.911 and prices per dozen were not dissimilar to UK prices.



The Nuffield Poultry Group looking at Les Oeufs

Conventional cage vs. Enriched cage production

A farm in the north west of France provided an opportunity to compare conventional and enriched cages. Data revealed that production was very similar in both systems although mortality was slightly lower in the enriched cages. A study by Peter Van Horne - IEC Economic analyst - estimates the additional cost of producing eggs in enriched cages to be 8% more than conventional cages.

There are over 5 million hens on contract in the Brittany area, with many producers' contracts based on a feed supply arrangement. Production is purchased on a contract whereby half the price is variable depending on feed cost and the other half variable depending on the egg market situation.

Free range growth and Egg Marketing

Free range sales have grown significantly in the last 2 years at an average 10% a year. The majority of free range eggs in France are produced on traditional flat deck systems, where average returns to producers are in the region of €5-6 per bird, less depreciation on the house. In many cases, feed is supplied by the company, often a cooperative that also buy back the eggs.

At a Cooperative egg marketing operation with annual sales of over 4 billion eggs, modern grading equipment with integrated traceability was in operation to maximise capacity and streamline grading information. Also on site, a boiling facility adds further value to small and medium eggs. Eggs destined for boiling are required to be at least 2 weeks old before they

can be boiled and easily shelled. Products include sliced egg for salads and egg mayonnaise for sandwich fillings.

Over half the market for boiled eggs is to caterers e.g. schools, restaurants and service stations. The remaining market is to food businesses, where boiled eggs are used in salads sold through supermarkets.

France – In summary

It is estimated that 50% of production in France is already compliant to the 2012 standard. Alternative systems account for 19% of production. Retail consumption of eggs has increased in both volume and value. Approximately 30% of egg consumption is dedicated to egg products and this share is increasing.

Smaller producers, working through cooperatives are common in France. There is a lack of new entrants into the French poultry industry due to poor image and concern that revenues will not cover the reinvestment required to be 2012 compliant. Animal welfare continues to be a major challenge to the French poultry industry.

6 A Worldwide Study

6.1 Countries Visited

In order to help prepare for study further afield and to gain a different perspective on the EU situation, I took the opportunity to attend the International Egg Commission (IEC) conference in Vancouver, Canada.

Aware that the US egg industry continues to have issues with animal welfare groups influencing legislation, I made plans to visit farmers in California to study the effects on their industry. Additionally, a visit to a 'mega egg farm' in Iowa was an opportunity not to be missed whilst in the US.

6.2 Canada

The IEC conference in Vancouver presented a fascinating global overview of the egg industry, with over 50 countries represented.

The country reviews revealed a trend: those with lower welfare legislation and less influence from pressure groups are expanding at a quicker rate than the more sensitive areas. Mexico is expanding its egg industry in order to supply the increasing global demand, and is poised to take advantage of any shortfalls in production in the more legislatively sensitive countries like the US (in particular, California). Mexico has a national flock of 130 million layers and consumption is high at 345 eggs per capita. In comparison, the UK national flock is 32 million and consumption 183 eggs per capita.

The conference also provided the opportunity to look at Canada's supply management system, introduced in 1972 in order to better manage supply and demand. The Canadian egg quota system is covered in greater detail in chapter 8 (pages 32-33)

The IEC conference was an excellent event, in a fantastic part of the world, and provided an ideal networking opportunity to help plan my final trip to China and the USA.

6.3 China

China, a country that produces almost half the world's eggs, was also a 'must see' with the key objective of identifying any effects (opportunities or threats) caused by the EU legislation.

Landing in Hong Kong, at the new airport built on the reclaimed Island of Chek Lap Kok, was the start of my Chinese/American study trip. I was met by a friend from University who had settled in Hong Kong, now with his Chinese wife and two children.

My brief stay with Paul and his family was a great experience and an ideal opportunity to learn about Chinese culture and etiquette. Paul's wife, Charmaine taught me the importance of not 'losing face' and briefed me on the Chinese way to conduct meetings (including the Chinese way to give and receive a business card.)

I visited several supermarkets most of which stocked shell eggs from several origins including China, Japan, USA, New Zealand, and Thailand, the most expensive being Free Range eggs from New Zealand.

In contrast to the pre-prepared and pre-packed produce of the supermarkets, Hong Kong's wet markets (wholesale markets) offer fresh food straight from the farm. Very much a traditional market street, fresh fruit, vegetables meat and eggs are all on offer. Following the Bird Flu crisis in 2002, live poultry is no longer permitted, however the fish markets are very much 'live', with stalls displaying an array of fresh fish. I also spotted a couple of cages containing live toads, the meat from which is apparently a delicacy in some regions in China, but is mainly used as an ingredient in traditional medicine.

The wet markets are a fantastic experience, the hustle and bustle, the colours and the smells, all make a memorable and inspirational visit.



Vac-packed yolks at a HK wet market

Introduction to the Chinese Egg Industry

By the end of 2010 the population of China is expected to reach 1.4 billion. This is approximately equal to the current number of laying hens in China which accounts for over 40% of the world's egg production. The vast majority of Chinese eggs (95%) are sold through local wet markets, where eggs are traded through a dealer who purchases them direct from the farm. Very little regulation for food safety is enforced and returns to egg farmers average RMB 5 per KG (approx 50 pence per kg or 40 pence per dozen). Consumers pay in the region of RMB 5 for half kg. No branding exists through these channels as eggs are very much a staple commodity. Average consumption is high at 333 eggs per capita per year.

The remaining 5% of total production is graded, packed, and sold mainly through large supermarkets. Grading and packing eggs is relatively new to China and only started to evolve on a commercial scale less than 10 years ago. China exports egg products, mainly powder, to Japan and the Middle East.

Continued overleaf

Free range (free running) eggs

A fruit farm in the hills near Fuqing City provides an ideal environment for a small free range enterprise. The 'free running' birds are fed on a home mix of crushed maize, soya beans and live meal worms. The meal worms provide a tantalising and high protein ingredient for the birds. In order to keep up with demand a room had been set up to provide a nursery for new generations of meal worms, produced from just one tray of adult beetles. Eggs are collected from the nest boxes in the laying house and sold locally for approximately 24 RMB per KG, with the remainder going to Guangyang (the local packer and marketer of eggs and various egg products)

Duck eggs

In China, duck eggs account for 20% of all eggs consumed. Guangyang Egg Industries is one of Chinas' biggest suppliers of duck eggs, including salted and preserved eggs. Based near the city of Fuzhou (population 7 million) the business employs over 500 staff. At lunch with my Guangyang hosts, I sampled salted and preserved duck eggs, both of which have a very strong flavour and can only be described as an acquired taste!

'Salted' duck eggs are produced by adding a teaspoon of salt and water to a duck egg which is then wrapped in cellophane and placed in a plastic pre-pack. The process is carried out in the packing centre by highly dexterous staff who also repack incoming eggs from crates onto standard trays ready for grading.



Preparing salted duck eggs

'Preserved' duck eggs are produced by submerging eggs into a 4 metre square pit, containing specially prepared liquid, where they remain for 50 days. Each pit holds around 150,000 eggs and, with over 150 pits, the basement preserving facility could hold approximately 22 million eggs at various stages in the preserving process. After 50 days eggs are removed and each one individually checked by hand before packing. Preserved duck eggs are very dark in colour, have a unique taste, and are sold as a delicacy.

The factory had recently purchased three state-of-the-art grading and packing machines to help grade the one million duck eggs that arrive at the factory each day. Duck eggs vary in size and shape much like hen eggs. However the properties of duck

eggs are different and the equipment had to be modified in order to effectively detect any cracks in the shell. Detecting cracks was traditionally done 100% manually; a vital process because eggs destined for preservation must not be damaged or cracked.

In the centre of Fuzhou, I visited the Guangyang egg shop where a range of egg products were on display. With over 10 different products the best sellers were: a dozen small hens eggs presented in a basket of straw; preserved and salted duck eggs in colourful packs; and individually vac-packed boiled tea eggs. I sampled one and was pleasantly surprised just how tasty it was.

Major retailers also sell Guangyang products. A visit to a new Sams Club store (a Walmart Supermarket) demonstrated the importance of merchandising. Similar products were on display as in the 'smaller egg shop' which is used as a test bed for new products and packaging.

The Guangyang Egg Industries company slogan translates: Famous egg products coming out from my hand.

Han Wei Foods

Following a four hour flight from Fuzhou to Dalian, on a packed flight where I was the one and only westerner, I was met by representatives of Moba and Hanwei Foods.

In the North West, near Dalian, is Hanwei Foods, a company which claims to have the largest layer farm in China, and the biggest egg processing factory in Asia. The company operates a strict bio security policy so access to birds is restricted and viewing is via the company video, which I was shown in the main boardroom. Questions to the General Manager of Han Wei uncovered no major differences with production systems other than a higher stocking density than current EU standards. Feed generally contains higher proportions of maize (approx 60%) which helps to give the yolk a deeper colour. The main egg brand of Han Wei Foods is 'Gedada' eggs (the equivalent to 'cluck cluck' eggs) which use golden yolks as a part of their USP.

From the viewing gallery in the packing centre, it was clear that the vast majority of eggs are graded and packed onto standard trays, as the majority of production is destined for the egg products side of the business, Hanovo Foods. Again, due to strict bio security, I was not permitted to visit the processing facility although I was shown a range of their egg products including bespoke blends of liquid and egg powder made for various food manufactures.

China - continued on next page

DQY - Sustainable Ecological Agriculture

Outside Beijing, DQY have developed a production facility based on sustainable ecological agriculture. The aim is to become one of the most influential egg product companies in the world, providing leading egg products, technology, and service.



DQY Ecological Farm

A tour of the 250 acre site gave an overview of the layout and DQY's impressive mission. One specific area of the site provides facilities to rear pullets which, in rotation, fill the 2 million laying bird places. The conventional cage units are based on current European animal welfare standards. All eggs enter the packing centre and some go on for further processing. Grading, packing, and processing facilities are positioned in the centre of the complex. Movements of eggs, feed, and manure between various buildings takes place on underground conveyers which makes for a very tidy looking site. Staff facilities, near the top end of the complex, include accommodation and catering facilities for over 400 employees.

An on-site bio gas plant provides up to 14 million kWh of electricity per year from gas produced from the poultry manure. A proportion of gas is piped to a local village for domestic heating and cooking. Manure digestate, the other product created in the anaerobic digester, is sold at a discounted rate to local maize producers who supply the onsite feed mill.

China – In summary

With a new generation striving for a better life in the city and general labour costs increasing, food demand is changing fast. The model of DQY is the future of commercial egg production in China as replica facilities of 'Sustainable Ecological Agriculture' will receive the necessary private and state funding, to cater for the massive increase in urbanisation.

The Chinese people have a single minded determination to succeed; a visit to the Great Wall clearly demonstrates their ability to achieve the seemingly unachievable. Although with a very different culture and ethic towards animal welfare than Europeans, innovation in the egg sector is impressive and Mr. Yu's (CEO of Guangyang Egg Industries) enthusiasm for marketing and his desire to prosper was an inspiration.

Beijing is one of a number of vast and fascinating cities in China. I didn't miss the opportunity to visit several sites, including The Forbidden City, Tiananmen Square, and the Birds Nest Olympic stadium. At the time of my visit, I witnessed very strange yellow skies

caused by sand storms, highlighting the impact of the country's worsening issues with desertification. (See appendix 14.4 pages 44-45)

China is a country of extremes and, having visited, I feel sure that they will continue to achieve unbelievable growth and prosperity despite western concerns about their method of Government.

6.4 USA

In the US, I planned meetings which were geographically situated in order to travel from the West Coast to the East Coast. Starting in California, with a visit to JS West, provided an opportunity to learn about the early effects of banning conventional cages in California, (Proposition 2 is covered in greater detail in Chapter 7, pages 29-30). Then on to Iowa, in the Mid West, to Rembrandt Foods, the world's largest vertically integrated egg production business. Finally, to the headquarters of United Egg Producers in Washington, and an opportunity to gain a wider perspective on the US egg industry.

Overview of the Californian Egg Industry

Agriculture is an important sector in California's economy and the State is the nation's fifth largest producer of eggs, with over 20 million laying hens. The majority of egg farms in California are family owned and supply over fifty percent of the shell egg requirements of some 37 million Californians.

California is a net importer of shell eggs and egg products, bringing in production from Iowa, Minnesota, and Utah. The share of non-cage production is small, at about 5 percent of total consumption. In November 2008 a measure known as Proposition 2 was passed in California, which will challenge the future viability of the Californian egg industry.

JS West- California

JS West is a family business based in Modesto, North California and is one of California's largest egg producers. Eggs produced by JS West are marketed through Nucal Foods, a family owned agricultural Coop based in Ripon, California. Nucal is one of the largest distributors of shell eggs in the western US and markets eggs under several brands including Cal Eggs, Nulaid, and Egglands.

Their packing operation is fully temperature controlled and complies with the USDA code of practice for handling eggs. Production is conveyed into a packing facility and through an 'in line' egg washer before being air dried, graded and packed on high capacity machines. High quality management and a healthy work/life balance ensure that turnover of staff remains low.

The majority of birds are white because the market for eggs in California and the US is predominately for white eggs. White birds are physically smaller than brown birds and have a better feed conversion rate. All replacement pullets are reared on site from day old chicks, which are trucked in overnight from specialist hatcheries in other states.

A new colony cage unit to house 150 thousand birds in 60 bird colonies is planned for mid 2010. The colony system is specified to EU standards (750 cm²/ 116 square inches per bird) and features a bespoke ventilation system to cope with high summer temperatures.

Some egg farms are strategically positioned in large almond orchards. This is to utilise any 'wash down' water and manure, the nitrogen from which almond trees thrive on. Additionally the trees help 'market' a story of sustainability, a key word in an area with huge water supply and management issues.



Californian egg production surrounded by almond trees

California – In summary

Californian egg producers face a challenging future when P2 takes full effect in 2015. This issue is covered in greater detail in Chapter 7, pages 32 - 33.

Rembrandt Foods 'mega egg farm' - Iowa

Driving the 20 miles from Storm Lake along the perfectly straight roads towards Rembrandt gives you a good feel for the huge scale of agriculture in Iowa. Neither was I disappointed by the scale of the egg production and processing facility that appeared on the horizon as I neared Rembrandt Foods, a 5 million bird layer operation built on a 250 acre site.

Rembrandt Foods is the largest fully vertically integrated egg products company located in the United States. They claim that their vertically integrated system provides superior traceability, improved functionality and a sustainable approach to food production. Sustainability is a key message in Rembrandt's Corporate and Social responsibility which is based on converting feed into protein as efficiently as possible.

In 2000, the head of the company teamed up with a pullet rearer and together with a key investor (who owns the land that the facility sits on along with 10,000 acres in the immediate area) initially built a 1.3 million bird layer facility. Almost 10 years later it has grown to over 5 million birds and has one of the largest egg powder production facilities in the US. They recently bought out a competitor 'Golden Oval' and now have over 10 million layers under their control.



A 'mega egg farm' Iowa USA

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Egg processing

Every egg from the 5 million birds is conveyed directly into a breaking plant. The flow of eggs is carefully controlled by computer to ensure that all three breakers run at maximum efficiency. On an average day the facility breaks over 4.5 million eggs and has the capacity to dry the majority of the liquid that it produces. The capacity of the dryers is huge and they were built in part with exports in mind.

The breaking plant operates a two shift system between 5.30am and 3.30pm. US law permits a maximum run of 5 hours before a thorough wash down and hygiene checks which, once passed, allows the next shift to commence. The whole process is monitored by a USDA inspector, who overlooks the breaking plant and checks finished product quality. The scheme is expensive but assures customers that all the necessary food safety procedures have been carried out. The scheme is used as a marketing tool, and the USDA certification is displayed on finished product packaging.

Bio security

Bio security is paramount at Rembrandt which operates a strict shower in and shower out policy. An external tour of the site demonstrates the scale of the operation with 16 huge layer sheds, a massive centralised feed mill as well as processing and bulk storage facilities for eggs. With no shortage of land the 'inline' layout allowed for even further expansion in the future.

Manure is conveyed into holding sheds before being sold to local farmers. A bespoke building is used for composting any mortality in the laying sheds. Carcasses are first ground up and then mixed with organic matter, usually shredded cardboard or straw and left to compost. The material is then sold to garden centres or to local farmers to spread on the land.

All the water from the plant is treated on site and then injected into surrounding farm land 6-7 inches below the soil. This helps reduce any possible odour issues but more importantly minimise any evaporation during the hot summers.

Inside the layer facility, birds are stocked in line with United Egg Producers recommendations of 67 to 86 in² (430 to 560 cm²) per bird. The air quality was good with cross ventilation effectively controlling the temperature. Temperatures fluctuate substantially in Iowa and extra fans positioned in the sides of the sheds could be called on during hotter spells.

Rembrandt – In summary

Rembrandt is an impressive business, with excellent management and a clear objective. The scale of their massive facilities leads to very efficient economies of scale in egg production and processing. Following the visit, I spoke to their European Director of Sales and met in Harrogate (of all places!) to discuss the future of egg products and their enhanced functionality in more depth.

Rembrandt have recently formed a partnership with Källbergs, a Swedish company, who are dedicated to supplying European food manufacturers. Together they aim to contribute to the development, profitability and competitiveness of their customers by introducing functional egg ingredients to the food industry in Europe.

United Egg Producers - Washington DC

Over eighty percent of US egg producers follow the UEP guidelines and certified program. Subscribers opt in to a full time USDA inspector who monitors the packing and/or breaking process in order to guarantee compliance.



At UEP with Mr Maguire and Mr Green

UEP recognise that consumer perceptions towards intensive egg farming need to be improved. In response to this, United Egg Producers have launched an initiative to help build trust between industry and consumers. They have provided the US industry with animal care guidelines based on science, together with a report 'Impacts of banning Modern Cage Egg Production in the United States'. The report provides a framework to lobby government and highlights the pit falls of banning conventional cages on a national basis.

Additionally, consumers can visit a web site www.usaeggfarming.com to take a virtual tour of various farms and hear from different generations of family farmers about how their eggs are produced. The footage includes factual information from scientists who are familiar with modern egg farming. The aim of the video is to help sell the holistic approach to producing eggs; an approach which gives a more equal bearing to factors such as food safety, carbon foot print, animal welfare and cost.

HSUS and other animal rights activists are continuing to have success at driving through legislation which changes conditions for farm animals in the US, notably in Florida and Michigan, where veal crates have been banned, and in Ohio, where the constitution has been changed to include an Animal Standards Board.

UEP - In summary

UEP are confident that the work they are putting in now will help protect the future sustainability of an industry that is promoting, amongst other things, its own environmental sustainability. This fresh approach by UEP is firmly based on science because it recognises that emotional campaigns are very difficult to counter. They are now very much on the front foot and determined to shout about the positive sustainability of modern egg production in the US.

7 Animal Welfare Legislation - Impact case studies

7.1 California USA - Proposition 2

Proposition 2 (P2) is a Californian ballot proposition which was enacted in November 2008. P2 becomes operative on 1st January 2015 and threatens the future economic viability of the Californian egg industry.

P2 prohibits the confinement of certain farm animals in certain systems (battery cages, veal crates, and sow gestation crates) in a manner that does not allow them to turn around freely, lie down, stand up, and fully extend their limbs. The specific wording of the initiative is imprecise adding uncertainty for producers about what new systems to use and how best to progress.

The animal rights activists, Humane Society for the United States (HSUS) played a key role in publicising P2, showing video of poorly treated animals, not necessarily connected with the three types of confinement the measure relates to. The video footage along with the original title 'The California Prevention of Farm Animal Cruelty Act' is believed to have been key in compelling over 8 million Californians to vote in favour of P2. (The title of the measure was later changed to Standards for Confining Farm Animals, by the attorney general's office.)

Supporters of P2 say that it is a modest measure that ends the cruel and inhumane confinement of certain animals on factory farms. They argue that smaller, local family farms will have an increased competitive edge over larger factory farms. Clearly the HSUS have a dislike of large agribusinesses and have the funding and now the momentum to cause further issue for agriculture.

Interestingly, the situation in Europe in regards to enriched colony systems is seen by some supporters of P2 as a positive step. They support systems that allow birds to move freely and display natural behaviours, claiming that birds are healthier and calmer with a stronger natural immunity to disease. The Californian Egg Industry will draw some strength from this and from advances in layer hen systems which have developed as a direct result of the EU Directive.

Economic effects

A study by the University of California Agricultural Issues Centre concluded that non-cage systems incur costs of production that are at least 20 percent higher than conventional cages due to:

- Higher feed costs (due to more feed consumption per bird and fewer eggs per bird)
- Higher mortality
- Higher direct housing costs (because there are fewer birds per flock and fewer marketable eggs over the life of the hen entering the flock)
- Higher labour costs (due to fewer birds per flock, i.e. a higher unit cost)

The study alarmingly predicts that almost the entire Californian egg industry would potentially relocate to other states during the 5 year adjustment period. By demonstrating

that most egg producers would leave the state, the report estimates that the initiative would not affect how eggs are produced, only where eggs are produced.

According to a May 2008 study by Promar International (see appendix 14.5 page 48) commissioned by opponents to P2, 95% of the California egg industry would be lost by 2015, including the three and half thousand jobs the egg industry creates.

Approximately 95% of California's egg farmers are part of the UEP certification program. Farmers have to place top priority on health, safety, and comfort of their hens, and submit to independent audits. Animal welfare advocates, however, claim that UEP certification deceives shoppers by conveying a false message of humane animal care. They say that UEP certification permits routine cruel and inhumane factory farm practices such as intensive confinement in restrictive, barren cages such that the hens cannot perform many of their natural behaviours which include perching, nesting, foraging or even fully stretching their wings.

Summary of Proposition 2

Proposition 2 is evidence of how animal welfare pressure groups can influence legislation. The Humane Society of the United States is determined to find ways to achieve its goal with a strategy which will no doubt continue to include, influencing voters in proposition ballots.

From 1 January 2015, Californian egg producers will struggle to compete on price with eggs produced in other states. Some producers may opt to move to facilities outside California, others may downsize and look to develop sales of more 'premium eggs'.

7.2 The UK Pig Industry

In the last 10 years the UK pig industry has faced some serious challenges. One of the main challenges, which is now accepted to have contributed to the deterioration of the pig industry, is the introduction of new welfare standards for housing pigs in 1999.

The 1999 UK ban on tethers and close-confinement stalls for breeding sows is estimated to have cost the industry £323m. BPEX demonstrated (in the 2008 EFRA report - Environment, Food and Rural Affairs) that the increased ongoing cost of production for no additional return led to reduced producer confidence and reduced the level of reinvestment in production systems, ultimately causing the decline of the industry.

In 1998 the UK produced 84% of the pig meat that it consumed. Since 1999 the UK pig herd has reduced by 40%, whilst imports have risen sharply.

BPEX have compelling evidence that higher welfare standards increases the cost of production. Although some premium has since been gained for higher welfare standards, the levels are not sufficient to sustain the increased costs. Since 1999 other EU member states have been able to produce pig meat cheaper and some are now receiving financial assistance to convert to the wider welfare standards due to be introduced in 2013.

It's believed that up to 66% of imported pig meat may have been reared in conditions banned in this country. Due to labelling loop holes, this meat, if 'significantly altered' in the UK, i.e. cured or butchered, can then be sold as British. Whilst price might be the number

one factor in consumer choice, consumers have the right to be properly informed about the country of origin through clear labelling.

Summary of the UK Pig Industry

Higher welfare standards introduced in the UK in 1999 led to an increase in imports. The situation was exacerbated by labelling loop holes which may have misled consumers into believing that they were buying UK produce. In 2013 an EU ban on stalls and tethers will be introduced across all member states where several countries are financially assisting their pig producers to make the required alterations.

In response to UK requests to ban pig meat that does not adhere to 2013 standards DEFRA have said:

WTO rules do not allow members to restrict trade in products based solely on the method of production (e.g. on animal welfare grounds) and the UK adheres to the principle that developing countries should be granted equal access to our markets without having processing standards imposed. Developing countries in particular fear that animal welfare production standards will be used as an excuse for protectionism.

The above demonstrates the difficulties producers face when forced to implement higher welfare standards over other countries. It highlights that developing countries will not be penalised for inferior animal welfare in order not to restrict trade.

8 Risk Management

8.1 How do we protect our market?

Consumer protection laws aim to protect the interests of consumers. Clear labelling is a vital part of consumer protection and should aim to inform consumers from whence products originate and how they are produced.

Current EU law requires a code to be stamped on each egg in order to recognise the production system, country and farm origin. (For further information see page 44 - 12.2 Understanding Egg Codes)

In order to identify eggs from enriched cages, it is proposed that a different code for conventional cage eggs is introduced. This will enable clear identification of eggs produced in 'legal' enriched cage systems. The new code will help compliant countries better police the situation and ultimately allow consumers to recognise higher welfare on each egg they buy.

8.2 Unforeseen effects (What's around the corner?)

Although imports from non-EU countries are currently less than one percent, when the Directive comes into full force in 2012 the situation may well change.

As these countries have little welfare legislation, and lower production costs than the EU combined with further trade liberalisation effectively reducing Import tariffs, the EU will suffer an increased loss of competitiveness.

8.3 The Canadian Model

Managing market volatility is something that the UK egg Industry has experienced although usually as a result of a crisis situation, such as Salmonella in eggs in 1988.

The Canadian Egg Supply Management System (quota system) brings stability to both producers and consumers over the long term and is based on 'three pillars' of supply management.

a) Import controls

By monitoring and knowing what levels of imports to expect helps calculate how many eggs must be produced.

b) Production planning

The results of monitoring and forecasting along with market analysis enables Canada's egg farmers to know how many eggs they need to produce to meet market demand. This quota is then divided between all 10 provinces and the Northwest Territories. National consumption over three years determines the new quota at an annual review by the board members of the Egg Farmers of Canada.

c) Producer pricing

The third component of the system ensures that egg producers are fairly paid. The pricing structure guarantees that egg producers will earn sufficient revenues to cover their production costs. Inefficient producers make less than efficient producers, so effectively there is an incentive to be as efficient as possible. The guaranteed producer price prevents large multi nationals squeezing smaller producers; however retailers are free to sell eggs at whatever price they choose. Additionally a survey is conducted every five years to assess changes in distribution costs.

Approximately 25% of Canadian egg production is directed into an industrial egg pool, which is then sold by the Egg Farmers of Canada to processors. Egg Farmers of Canada buy and resell eggs to processors at an agreed processor price.

The average egg processor price in 2009 was 50 cents per dozen. However, the price that producers were guaranteed to received for their eggs was \$1.63 per dozen. The difference between these two figures is made up by the levy, made from every dozen eggs sold. The levy is divided into two funds, a pooled income fund and an administration fund. The administration fund covers marketing, food safety and PR. The pooled income fund receives the larger percentage of the levy money and it is this money that is used to make up the gap between the income guarantee to the egg producers and the processor price. The levy raised in the pooled income fund ensures that all producers receive a fair price for all eggs, even if the eggs are sold below the cost of production.

In 2007, Canada's federal and provincial agriculture ministers officially accepted the egg industry's three pillars of supply management system, a business risk management programme, as a viable way for producers to mitigate market volatilities and manage risk.

9 Conclusions

After completing my study 'The 2012 EU ban on conventional cages and its effect', I have drawn the following conclusions. It should be noted that this is a rapidly evolving situation, both in Europe and elsewhere, and hence my assessments will undoubtedly be modified as changes take place.

1) Increased production costs

The more space per hen the higher the cost. The switch to 2012 compliant systems increases the cost of production by 8% in enriched cages, up to 10% in enriched colony systems, up to 22% in barn systems and at least 25% in free range systems. Feed costs in the EU are generally up to 30% higher than the USA, Brazil, Argentina and India giving non EU countries a significant advantage in production costs.

2) Further polarisation of the Industry

Many smaller producers across the EU are unlikely to reinvest in 2012 compliant systems and will exit industry by 2012 or when market conditions dictate.

3) Increased threat of imported 'illegal' and lower cost shell eggs

If the Directive is fully enforced across all member states, eggs will become short. This shortfall can't physically be filled by other European producers (Switzerland, Austria, and Norway) resulting in imports of eggs produced in lower welfare systems from outside the EU.

4) Increased threat of imported egg products from outside the EU

As the majority of food manufacturers buy raw materials purely on price, they may look to import cheaper products from outside the EU. This may also be the case if EU supplies tighten or in order to avoid perceived potential market volatility. Non EU countries can produce egg powder up to 25% cheaper than in the EU. If import levies are reduced then non EU countries will be at a significant cost advantage especially following the implementation of the Directive, as the EU cost base will have increased further.

5) The danger of oversupply and market volatility

From a producer perspective, if the ban is not fully enforced then potential over supply will cause volatility in the market. Volatility can lead to a loss of confidence in the supply chain and a potential loss of competitiveness in the market place.

6) Further action against intensive food production by animal welfare pressure groups

The EU ban on conventional cages is viewed by some animal welfare groups as the first step towards banning cages outright. Animal welfare groups will continue to influence and accelerate any legislation in relation to improving animal welfare despite the paradoxical issues it creates in the market.

7) Market Distortion

The Directive has led several member states to introduce grant aid in order to sustain production. However this could lead to an influx of new entrants, particularly in non-cage production, potentially flooding the market.

8) Globalisation of commodity supplies

The general pattern emerging in the egg industry is that the bigger producers are getting bigger and view the market as global.

10 Recommendations

1 Protection

As up to one third of the total EU flock may still be in conventional cages post 1 January 2012, the UK industry must look to protect its home market against cheaper 'illegal' imports.

One measure to ensure protection for compliant countries is the introduction of an intra member state trade ban on table eggs that are produced in conventional cages from 1 January 2012. Additionally, a means of differentiating eggs from conventional cages and eggs from enriched cages by a code number or mark on the shell, will help to police the situation and ultimately allow consumers to recognise higher welfare on each egg they buy. The current proposal for identification is for enriched cage eggs to be marked with a code 3 and conventional cage egg either a code 4 or some other mark.

2 Promotion

A strategic marketing campaign to promote the fact that British eggs, certainly British 'Lion Quality' eggs, are produced in line with current EU law, is a proactive long term measure which needs planning now. The Olympic Games in 2012 is an ideal opportunity to highlight the situation and make sure that all eggs and egg products used at the games are British 'Lion Eggs' produced in line with current legislation. Such a campaign could be coordinated through the BEIS who are already doing some excellent work promoting British 'Lion' eggs.

Continued and effective lobbying by the BEIC and NFU focusing on the positive aspects of intensive production, sustainability, economics and a low carbon foot print are key factors to help protect the future of intensive egg production and the investment made by many producers.

3 Innovation

Reviewing supply chains, and setting up strategic partnerships is innovative thinking, especially when the main beneficiary is the customer. UK industry needs fresh thinking to counter the emerging threat of functional egg products produced outside the EU. There is currently no egg drying facility in the UK. A fresh approach will gain momentum especially if major players in the industry recognize that the biggest threat is doing nothing.

4 Cooperation

As well as changing bird numbers, uncertainty and indecision will cause further volatility in the EU egg market well beyond 1 January 2012. This could play into the hands of the more stable markets of non EU producers located within the large grain belts, notably the US, Brazil and Ukraine. These 'mega' producers see opportunities to supply Europe with stable, functional egg products which the UK Industry will struggle to compete against. Therefore the UK must adopt a more cooperative approach to managing its processing industry and also aim to develop

innovative egg products to counter the non EU low cost producers. This is an initiative that I can raise for discussion through my directorship of the CEA.

During times of volatility, markets are difficult to control and prices can slip without resistance. In more stable times, a risk management system needs to be considered by the wider Industry and again can be put forward for discussion through my directorship of the CEA.

5 Research and Development

Egg consumption is increasing globally and remains the cheapest form of animal protein. The world population is growing, diets are changing but resources are depleting. The prospects for commodity markets are bright, however productivity closely coupled with sustainability are key to the future success of the global egg industry. In order for the UK industry to keep 'ahead of the game', a National programme to study and develop efficient, welfare friendly egg production systems, including commercial research and development is a must. This can be initiated through the BEIC to find industry partners to help fund R & D whilst aiming to lift the profile of poultry farming through Agricultural Colleges and Universities.

6 Consumer Education (Ref- appendix 14.6 page 45)

As the goals of egg producers, packers, and processors shift towards more consumer focused issues, such as sustainability and animal welfare, so should the industry refocus to concentrate on better educating the consumer. The UK industry can look at the UEP initiative which, through a bespoke website, shows footage of all egg production systems and aims to let consumers make an informed decision about the eggs they buy.

11 Actions speak louder than words

From a meeting in California, I found the following quote both intriguing and motivating.

“People trust farmers but they don’t always trust what farmers do”.

I now believe more than ever in the benefits of a strong, well communicated brand and have started an investment program to re-brand our business as a consumer focused food producer. Working on the relationship with the consumer is a key area which we are focusing on to help establish brand loyalty.

Although the recent global down turn in financial markets has reinforced price sensitivity, British free range eggs remain in demand. Against a trend of discounting and low prices free range egg sales have continued to grow because, in part, free range is a brand.

As a business we are taking a longer term perspective on recruiting production both from intensive and extensive systems, perceiving the EU market to be particularly volatile for some time.

Innovation is often the product of discomfort, but there is always time for fresh thinking and maximising opportunities. We will continue to bring forward new ideas and promote them through social media, in order to create ‘noise’ in a cost effective targeted way.

I feel very privileged to have had the opportunity to travel the world, meet some great people and study such a fascinating industry.

12 Terminology

12.1 Descriptions of Egg Production Systems

Conventional Cage

Also referred to as a 'battery' cage under EU law requires a minimum space requirement of 550 cm² per bird and are banned in the EU from 1 January 2012.

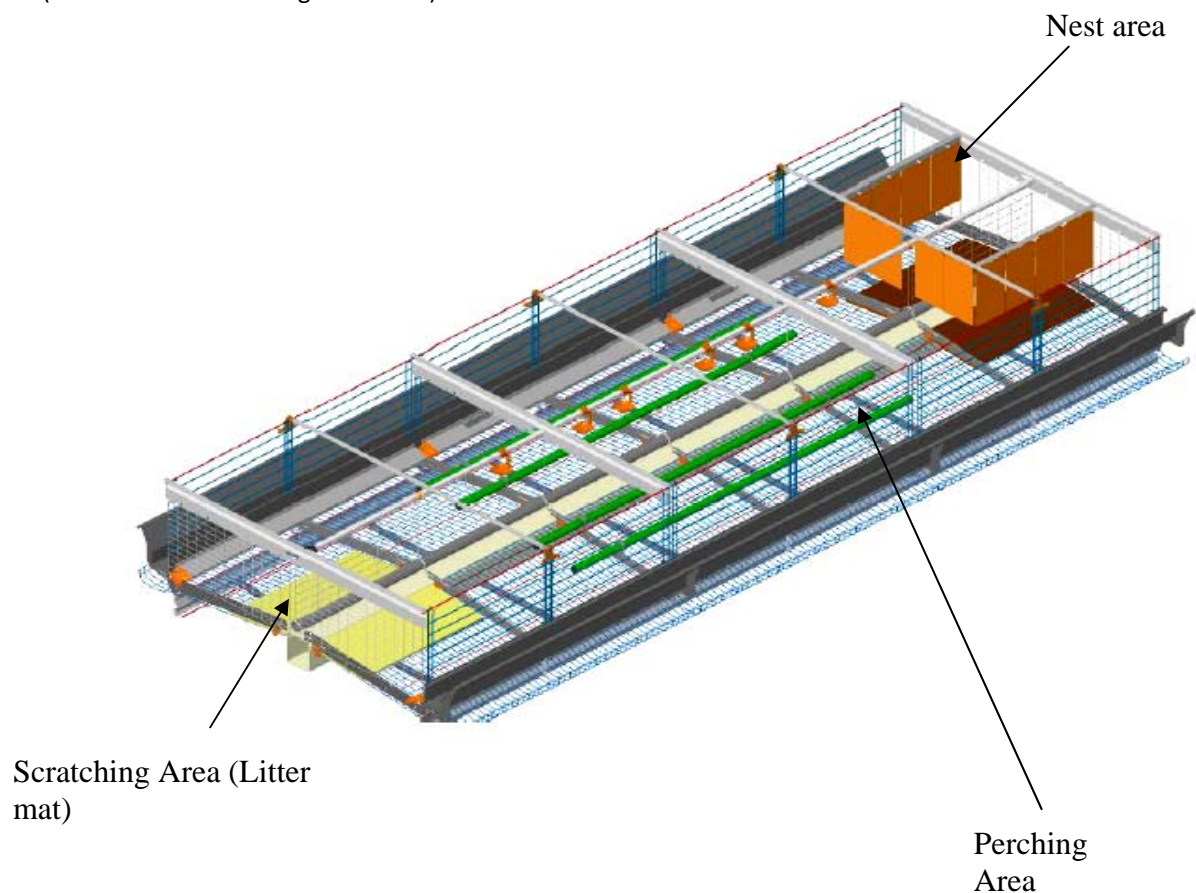
Enriched Cage

Under EU law requires a minimum space requirement of 750 cm² per bird and a minimum height of 45 cm from 1 January 2012. An enriched cage includes facilities for perching, nesting and scratching. (NB some cages are referred to as enrichable, as perching, nesting and scratching facilities can be added at any time prior to the 1 January 2012 deadline)

Enriched Colony Cage

As above however these cages are larger and can house from 20 to 80 birds per cage but must comply with the minimum space requirement of 750 cm² per bird per colony from 1 January 2012.

Enriched Colony Cage (Approx dimensions L 3015mm D 1500mm H 450-560mm – area 45225 cm²)
(EV 1250-EU - Source Big Dutchman)



Barn

From 1 January 2012, birds must be stocked at a maximum of 9 birds* per square metre. Birds are housed indoors, are able to move freely within the building and practice normal behaviour such as dust bathing, scratching and nesting.



Barn egg production (Germany)

Free Range

From 1 January 2012 birds must be stocked at a maximum of 9 birds* per square metre. Externally birds can be stocked at up to a maximum of 2500 birds per hectare. Birds must have access to the outside during the day time.



Free Range egg production (China)

Organic (6 birds per square metre)

As Free Range, however the birds are fed organically (95% of the feed ingredients must be organic, EU regulation)

**Internal stocking densities up to 12 birds per square metre are permitted for Free Range and Barn egg production until 1 January 2012 but only if the unit was built and in operation before 2nd August 1999.*

12.2 Understanding Egg Codes

Since 2004, EU regulations have required all Class A eggs (i.e. those sold through retail and catering) to be individually marked with a code identifying the method of production, the country of origin and the producer establishment.

The code starts with a number to distinguish the production method; this will be one of the following:

0= Organic, 1= Free Range, 2= Barn, 3= Cage.

The production method is followed by two letters (the ISO code) denoting country of origin (e.g. UK) followed by a code identifying the registered production site (generally numbers although sometimes with letters).

For example a British free range egg might be stamped: 1UK54321

12.3 Abbreviations

BEIC	British Egg Industry Council
BEIS	British Egg Information Service
BPEX	British Pig Executive
CEA	Central Egg Agency
DEFRA	Department for the Environment and Rural Affairs
EU	European Union
FAO	Food and Agriculture Division of the United Nations Database
IEC	International Egg Commission
IPPC	Integrated Pollution Prevention and Control
MS	Member States
P2	Proposition 2
UEP	United Egg Producers
USP	Unique Selling Proposition

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- Dave Rettig, who let me see his fantastic 'mega egg farm' in Iowa.
- Wolfgang Schreyer of Salmet Poultry Systems for his help and memorable analogy of the EU situation:
'Each country is cooking its own soup'!
- Cesare Benignia and Tecno Poultry Systems.
- Jack van Leeuwen - Hipro Bulgaria Plc.
- Mark Williams - BEIC.
- Professor Ilie Van, the head of the Romanian Poultry Association.

14 Appendices

14.1

IPPC Integrated Pollution Prevention and Control (IPPC)

IPPC is a regulatory system that employs an integrated approach to control the environmental impact to air, land and water of emissions arising from industrial activities. It involves determining the appropriate controls for industry to protect the environment through a single permitting process.

In the context of the regulations emissions are defined as being the direct or indirect release of substances, vibration, heat or noise from individual or diffuse sources in an installation into the environment.

In order to gain an IPPC permit, operators of industrial sites must show that they have systematically developed proposals to apply the Best Available Techniques (BAT) to pollution prevention and control and that they address other requirements, relevant to local factors.

14.2

Moulting

Moulting is the process of shedding and renewing feathers and is a part of a bird's natural process of reproductive regeneration. During this process no eggs are laid. Although not permitted by the UK 'Lion' code of practice, some farmers who want to keep their layers for more than one cycle often opt for forced moulting. This means that the moulting is induced by reducing feed intake and water to control when it happens. A humane moult (induced by a change in light pattern and not by the withdrawal of food or water) is permitted under the UEP certification programme in the USA.

14.3

SAPARD (Special Accession Programme for Agriculture and Rural Development) was established in June 1999 by the Council of the European Union to help countries of Central and Eastern Europe deal with structural adjustment in their agricultural sectors and rural areas. Currently SAPARD funding is available only to [Bulgaria](#), [Romania](#), and [Croatia](#). After [Bulgaria](#) and [Romania](#)'s entry into the EU, [Croatia](#) will benefit from a specially designed Pre-Accession Instrument (IPA) which will build on the programme support from [Phare](#), [ISPA](#) and SAPARD it will receive during 2005 and 2006.

continued overleaf

14.4

Sand storms in Beijing. (China Daily Newspaper – Monday March 22 2010)

"Is expanding desertification raising the severity of sandstorms?" Cao Li and Hu Yinan in Beijing report.

The sky across North China turned dark yellow over the weekend as the biggest sandstorm this year offered a grim reminder of the impact of the country's worsening desertification.



The Great 'Yellow' Wall - NMC March 2010

Tons of sand carried by winds of up to 100 km/h has affected more than 270 million people in 16 provinces since Friday, covering about 2 million sq km, said meteorological experts. The storm, the worst since January last year, reached Shanghai on Sunday.

Thanks to overgrazing, deforestation, urbanization and drought, deserts now make up more than 16 percent of the country, and scientists say the shifting sands are increasing the risk of sandstorms - the grit from which could travel as far as the western United States.

The Chinese Academy of Sciences estimates that the number of sandstorms has jumped six-fold in the past 50 years to two dozen a year.

Around 80 percent of sandstorms occur between March and May, with the country experiencing an average of 5.2 dusty days - often a by-product of sandstorms - in April, said Lin Jian, chief forecaster with the China Meteorological Administration.

However, as the dusty weather started later than usual this year, it could indicate that the number of sandstorms may be fewer than in recent years, he said.

In Beijing, residents woke on Saturday morning to find the city's streets blanketed by yellow dust. According to the National Meteorological Center, the sand travelled from deserts in the Mongolian People's Republic and the Inner Mongolia autonomous region.

China's national weather bureau gave the air quality a rare 5 rating - "heavily polluted" - and visibility was so bad that several flights had to be delayed at Beijing Capital International Airport, according to staff. The high-speed rail service between Beijing and Shijiazhuang, Hebei province was also suspended for about two hours.

14.5

Promar International is a farm and agri-food consultancy business, part of Genus plc. It specialises in research and consultancy in the agricultural and agri-food sectors both in the UK and worldwide.

14.6

Dr Peter Hunton - Research is the key to prosperity (Would Poultry No 05 Volume 26.)

UEP consumer web site www.usaeggfarming.com

continued overleaf

14.7

Sample Questionnaire, including replies from one global egg packaging supplier July 2009

1. Are you aware of the pending 2012 legislation - European Council Directive 1999/74/EC

Yes I am well aware of the impending legislation

2. What effect do you think the legislation will have on:

- a) Egg production levels in the UK?

I am convinced that egg production will reduce for 3 reasons

- i) Small producers will simply exit the industry***
- ii) Cage manufacturers cannot keep up with demand so there will be a delay in delivering enhanced cages***
- iii) Imports of eggs will increase and these could include standard cage eggs from within (contrary to the legislation) and from outside the EU***

- b) The type of eggs sold in the UK?

It is anticipated that by 2012 60% of UK production will be non-cage. However there will still be a demand for a "Value" egg and even more so due to the credit crunch effect which will not disappear overnight. I do not see "Barn" as the new "Value" offering as it would need to be sold at the same price as the current "Value" cage offering as that would not add up for the Producer. I see an "Enriched Value" market controlled by a few large packers and retailers with high levels of efficiency and automation. In any case "Barn" eggs are lost in that nobody understands the "Barn concept". Organic will continue to be directly related to the economy. Regional eggs have a real possibility of becoming the new "darling" of the ethical consumer

3. How do you think the legislation will affect the structure of the industry? i.e. more or less players

For sure there will be many fewer players. How many small cage egg producers are in profit today never mind having to write off a valuable asset and obtain finance to replace it to continue not making money? This legislation will finally kill off a lot of family businesses that have always managed to struggle on. This legislation is protecting the larger players who have invested heavily in the industry. So there will be fewer but larger players. Some feel there will be a 30% reduction in production of cage egg in the UK by 2012

4. Do you think that the legislation will effect the packaging industry?

Any reduction in production means a reduction in demand for egg trays and/or egg cartons. For example a reduction of 10,000 cases per week equates to a reduction in demand of 15.6 million egg cartons per annum (Dozens). Imported eggs will enter the jurisdiction in cartons. I do not foresee a situation where eggs are imported into the UK on trays and then re packed in cartons, especially in the light of recent bad press relating to alleged egg fraud.

5. Do you think that the UK egg industry will fully comply with the legislation?

The UK has an unfortunate history of “gold plating” EU legislation so I am afraid the UK will be very rigorous in implementing this legislation.

6. Do you think that all member states will fully comply with the legislation?

Absolutely not. The usual suspects will delay and delay and demand exemptions. However the crucial point is that it will be left up to individual Governments (and I suppose Egg Inspectors ultimately) to enforce the legislation and I guess the farther South and East you go in Europe the less likely it is that enforcement will take place.

7. Do you think a code 4 should be introduced for eggs produced in colony systems?

I believe there needs to be a rethink about codes. After all do consumers read/understand them? Also there is the emotional aspect of “Cage” so I believe there should be a National advertising campaign by the Industry and Retailers to explain the new “Colony” standard.

8. Do you think on-farm stamping is a sensible way to combat fraud?

I cannot think of any other way of ensuring that the correct code is put on the egg at source - as long as it is the correct code!!

10. What do you see as the major challenge or challenges to the industry in the future?

- a) To manage supply and demand to avoid peaks and troughs***
- b) To reinforce good health arguments to promote egg consumption***
- c) To emphasise how natural the product is***
- d) To compete with other proteins***
- e) To educate and overcome emotional welfare arguments***
- f) To introduce local Brands to protect from retailer domination***
- g) To survive and make a profit***
- h) To have a credible voice with Government***
- i) To create a trade barrier for imports through quality standards and welfare***

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