






# McDonald's Europe Flagship Farms Free-Range Eggs – The Lakes, UK

Free-range egg production is undertaken with maximum benefit to the well-being of the flock while providing a diverse and sustainable business in a rural environment.

This case study demonstrates how free-range egg production can be undertaken with maximum benefit to the well-being of the flock and providing a diverse and sustainable business in a rural environment. It also demonstrates good practice in terms of supplier relations and working closely within a local community.

The McDonald's Flagship Farms scheme has been developed in co-operation with the Food Animal Initiative to showcase good agricultural practices which are environmentally sound, economically valuable and ethically acceptable. A limited number of 'flagship' farms have been selected from within the McDonald's supply chain to represent progressive agricultural practice.

The following matrix has been developed by McDonald's to help assess sustainability within the agricultural supply chain. Farms selected demonstrate good practice in at least one of the matrix key areas, whilst also operating to generally high standards in all other areas.

Symbols    are used to highlight good practice in environmental, economical and ethical issues.

## McDonald's Good Practice Matrix

### Ethical (acceptable practices)

**Human health & welfare** ✓  
i Employee health & welfare  
ii Food safety ✓

**Animal health & welfare** ✓  
i Nutrition  
ii Medication & growth promoters  
iii Genetic selection  
iv Animal cloning  
v Husbandry ✓  
vi Transport  
vii Slaughter

**Business ethics & supplier relationships**

**Rural landscape preservation** ✓

### Environment (protecting the planet)

**Climate change**  
i Greenhouse gas emissions  
ii Energy efficiency & renewables

**Natural resources – water**  
i Water pollution  
ii Water usage efficiency

**Ecosystem protection** ✓  
i High conservation Value Land (HCVL)  
ii Habitat & species preservation ✓

**Natural resources – soil**  
i Soil fertility & health  
ii Soil erosion, desertification & salinisation  
iii Soil contamination

**Natural resources – air**  
i Air emissions

**Agrotechnology**  
i Agrochemical usage  
ii Bioconcentration & persistent organic pollutants  
iii Genetically modified organisms

**Waste**  
i Production waste  
ii Hazardous waste  
iii Waste to landfill

### Economics (long-term economic viability)

**Sufficient high quality production** ✓  
i Producer income security & access to market ✓  
ii Agricultural input costs  
iii Crop & livestock disease ✓

**Community investment** ✓  
i Local employment & sourcing ✓  
ii Support for community programmes



Good practices demonstrated in this case study

## Executive summary

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### Key areas of good practice:

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#### INPUTS & OPERATIONS

Tree planting promotes the laying birds to range, encouraging more natural behaviour and less welfare issues. Tree planting also aids the environment by using and storing carbon.

The buildings used and recommended by The Lakes for the laying birds are simple to construct and are designed to use the minimum of electricity once operational. They are designed to be multi-purpose, so a future change to the original use of the building would not be a major problem.

All use of medicines throughout the company is therapeutic. No prophylactic use of medicines is undertaken and even wormers are only used after worm sampling has identified the need to do so.



#### MANAGEMENT

All supplier farms have a specific biodiversity management plan created by independent advisers, the Farming and Wildlife Advisory Group. All farms must be registered under the DEFRA-funded Entry Level Scheme (ELS), encouraging farmers to deliver simple yet effective environmental management.

All the eggs are produced under the British Egg Industry Council standards and all producers farms are approved under RSPCA's Freedom Foods Scheme and the British Egg Industry Council standards.

Producer group meetings are conducted with training provided and benchmarking data supplied.



#### COMMUNITY

£4 million has been put into the local economy during the last year, through wages, local contracts and spending.

After the foot and mouth outbreak in 2001 the area was badly affected and traditional agricultural enterprises were economically unviable. The Lakes has provided local farms with a profitable diversification venture.

At present there are 38 local family farms (contract egg producers) which supply free-range eggs to The Lakes.

New farms are offered a minimum 14-month contract with limitless free help and advice offered by David and his management team.

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### Additional areas of good practice:

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#### STAFF

All staff are paid a minimum of 10% above the minimum wage.

Staff receive training and are encouraged to undertake more duties and responsibilities which is then reflected in their pay.

The business has provided local employment for 55 people both at the packing station and on the farm.






#### OUTPUTS

The laying units are achieving lower mortality rates than the documented breed average.

Consistently higher average egg yields are being achieved over the UK standard.

## Summary of actions and benefits

|                                | Action   | Benefits   |  |   |
|--------------------------------|--|--|--|---|
|                                |  | Environment   | Economics   | Ethics                   |
| <b>Staff</b>                   | All staff are paid above the minimum wage and training is provided   | Staff and suppliers are trained on key environmental issues  |  | 50 full time staff at the factory with 5 staff on the farm benefit from this policy                         |
| <b>Management</b>              | All eggs are produced under the British Egg Industry Council Standards   |  |  | BEIC standards ensure that the eggs are produced to the highest food safety standards                       |
|                                | All eggs are produced under the RSPCA's Freedom Foods Standards  | Freedom Foods requires producers to comply with environmental legislation within its standards                                       |  | Freedom Foods Standards cover the welfare of birds  |
|                                | Producer group meetings are conducted with training provided and benchmarking data supplied  | Producers are trained on current environmental issues and management   | Egg producers receive training on current regulations and working practices. Benchmark data is provided to identify areas where productivity can be improved |   |
|                                | The packaging station incinerates all its waste wood and cardboard with the heat generated providing all the hot water requirements for the business | Lower energy requirements from fossil fuels and reduces the amount of waste going to landfill  | Reduces fuel bill  |   |
| <b>Inputs &amp; Operations</b> | 20% of the range areas for birds are being planted to native trees   | Planting trees has a positive effect on local biodiversity and reduces GHG's by storing carbon                                       | Bonus payment on eggs produced under this system gives a 12 month payback period on cost of tree planting  | Encourages hens to range further which improves bird and flock welfare                                      |
|                                | Bespoke building design  | Utilises natural ventilation and uses low energy light bulbs which reduce electricity demands and has lower attributed GHG emissions | Buildings are cheaper to run, dual purpose construction which allows for alternative uses in the future other than laying birds                              | Control of red mite is taken into account during construction, which reduces the need for chemical controls |
|                                | Pullets are grown to a larger size prior to dispatch to layer units  |  | Lower mortality rates improve flock profitability  | Healthier and better prepared bird with reduced welfare issues and lower mortality rates                    |
|                                | Comprehensive vaccination programme for pullets  |  |  | Develops the bird's natural defences against disease and leads to reduced use of medicines                  |
|                                |  |  |  |   |
| <b>Outputs</b>                 | The laying units are achieving lower mortality rates than the documented breed average   |  | Improved profitability, as more eggs are produced due to lower mortality rates   | Good management practices improve bird health   |
|                                | Consistently higher average egg yields are being achieved over the UK standard   |  | Improved profitability due to increased egg sales  |   |
| <b>Community</b>               | The Lakes Free-Range Egg Company has provided local employment and work  |  | A total of 55 staff is employed  | Over the last year £4 million has gone into the local economy   |
|                                | The Lakes Free-Range Egg Company has provided a diversification opportunity for local farms  |  | Providing a profitable enterprise for the local farming community after the Foot and Mouth outbreak  | Currently 38 local family farms have contracts to supply eggs   |



## Background to egg production in the UK

Since the 1950s the British egg industry has seen dramatic changes in flock size, breeding and production techniques. Indoor systems were developed to provide optimum control over birds and to maximise egg production. The majority of eggs produced in the 1970s and 1980s came from commercial cage systems. Over the last few years, as consumers have become more aware of food production issues, free-range egg production has increased to make up about 32% of the market. Currently there are approximately 29 million laying hens in the UK and 300 million in the European Union.

**There are currently four different farming systems in egg production (figures from UK):**

### 1. Caged hens

This is the most intensive hen farming system. Currently in Europe each bird must have 550 cm<sup>2</sup> space in a cage (less than a piece of an A4 paper). Fresh food and water is provided by an automated system and the wire mesh floor slopes, allowing the eggs to roll onto a collection belt. Hens kept in conventional cages are unable to fulfil their basic behavioural needs such as walking, running, wing-flapping, dust-bathing, and food-searching behaviours such as scratching and pecking. The inability to perch and nest-build can lead to frustration, stress and aggressive behaviour. European regulations are coming into force in 2012, banning the use of conventional cage systems. Cages will be replaced by enriched cages, with perches, scratching pads and areas for egg laying. The improvements of enriched cages over the conventional system are minimal and will not address the current welfare issues of this system. Currently, 63% of UK eggs come from caged hens.

### 2. Barn eggs

Hens are kept in large sheds (percheries) with rows of perches at different heights. Floors are partly covered with litter (wood shavings or straw) and communal nest boxes are provided. Birds can move around freely and can express some of their natural behaviour. There are no predator problems as birds are housed continuously. Lighting levels, feed and water can be automatically controlled. Systems can

be single-tiered or, more commonly, multi-tiered, where feed, water and nest boxes are provided at different levels. There is usually a scratching area but in multi-tiered systems birds may not have easy access to it due to the relatively high stocking densities and other birds effectively blocking the way. Currently 5% of UK eggs come from hens kept in barns.

### 3. Free-range eggs

Free-range is very similar to the barn system, with one important exception; there are openings in the side of the buildings (pop holes) which allow the hens access to outside space. Under current EU regulations the hens must have access to open-air runs (during daylight hours) which are mostly covered in vegetation. There can be no more than 2,500 hens per hectare and hens are able to scratch, dust-bathe and exhibit natural behavioural characteristics. Predation by foxes and buzzards can be a problem. Currently, 32% of UK eggs come from free-range hens.

### 4. Organic eggs

Organic eggs are produced under the same conditions as free-range although stocking densities are lower. The living area must be free of chemical fertilisers and pesticides, and the feed must be from organically grown crops. Currently, 5% of UK eggs come from organic hens. (NB – these fall under the category of free-range eggs.)

**For all types of egg production systems:**

- Light levels are controlled, as egg laying ceases naturally during winter (due to shorter day lengths). Electric lighting is used to extend the day length to summertime levels and perpetuate the laying period so that birds do not moult.
- Birds are kept continuously 'in lay' for about one year, after which they are slaughtered.
- Laying hens naturally develop a pecking order, and if the birds do not have space and an enriched environment, this can lead to bullying, which may cause injury and even death.
- The modern laying hen can lay more than 300 eggs per year, beginning to lay from about 16 weeks of age.

## Introduction

David Brass grew up on Meg Bank Farm, a family-run, 120-acre livestock unit on the edge of the Lake District in England. After completing a degree in agriculture, and a 10-year stint as a pilot in the Royal Air Force, David returned home to work at the family farm. At the time, Meg Bank farm was mainly rearing beef and sheep, with David's wife Helen looking after a small flock of 200 free-range hens. Over the next five years, the flock expanded to 5,000 free-range hens. With the closure of the local packing station that the farm supplied, the decision was made to invest in a packing station at Meg Bank farm. A contract with a large supermarket allowed the farm to invest in a management team, and with further expansion a contract to supply free-range eggs to McDonald's was signed. The Lakes Free Range Egg Company was born.

The Lakes Free Range Egg Company ('The Lakes') now has around 48,000 free range birds, held over two sites. The birds supply around 14.5 million eggs annually into the packing station (about 10% of the total requirements of the business). David took the decision to contract out a large proportion of the egg production to local farmers, helping local businesses (which were badly affected during the Foot and Mouth outbreak in 2001) to find an additional ventures to the traditional beef and sheep production, which fitted within their business structures. David provides advice to local partners on topics from building construction and breeds of birds, to types of disinfectant to use. This bespoke approach helps new suppliers operate effectively from day one. David provides a minimum 14-month contract (which is the length of one batch of laying hens) to all his producers. In return, he insists that his suppliers work to the same high standards of good practice that he has adopted over the years.



Today there are 38 free-range egg producers supplying the packing station, 36 of which are within a 30-mile radius of The Lakes. David and Helen's commitment and vision to welfare-friendly practices has tapped into a market where a more informed consumer has the welfare of the birds in mind whilst buying eggs. Their business is totally focused on the production and packing of free-range eggs, and it is this commitment that provides the consumer confidence in their product.

*"It is good to see our customers taking an active interest in the production systems their suppliers use to produce their raw materials and then promote best practice within their supply base. For our farming operation to be selected as an example of best practice for the McDonald's Flagship Farms programme is not only an honour personally but recognises the strenuous efforts our whole team has made over a 10-year period."*

**David Brass**



## Staff

David employs 50 full-time staff at the packing station. Starting pay is at least 10% above the minimum wage and after 2 months this increases a further 5-10% based on a continuing scale of increments for further skill development. All staff receive training in food hygiene, in addition to specific job training.

David runs courses for his farm staff and all the supplying egg producers, engaging the services of training specialists on particular topics of interest. Topics have included food hygiene, hen care/handling, animal welfare, rodent control, new regulations affecting egg production, veterinary health planning, nutrition and statutory salmonella testing.



Staff are well looked after, both in terms of compensation and training and development.



Participation in assurance and management schemes ensure that the farm produces eggs to a high standard while also addressing local environmental concerns.



## Management

It is a requirement of The Lakes that all producers must register with The British Egg Industry Council (BEIC). The scheme is independently audited and provides assurance that the eggs are produced to the highest standards of food safety.

The farms must also be inspected by Freedom Foods which is a scheme set up by the RSPCA in 1994. The scheme consists of strict RSPCA welfare standards which cover all areas of egg production.

At least once a year, producer farms are provided with benchmark data (including eggs laid, mortality rates, egg size, hens housed, average lay and profitability) demonstrating performance within the group and suggestions for improvements. As the company is still relatively small, figures are collated easily, enabling the business to react quickly to any trends or potential issues that are identified.

David insists that the suppliers' farms are registered under the DEFRA-funded Entry Level Scheme (ELS). This programme encourages farmers to deliver simple yet effective environmental management, with a wide range of over 50 options to choose from, such as hedgerow management, stone wall maintenance and low input grassland. This fundamental requirement demonstrates David's commitment to conservation and ensures that his suppliers follow in his approach.

In conjunction with this, David employs the services of the Farming and Wildlife Advisory Group (FWAG), the UK's only independent and dedicated provider of environmental and conservation advice and consultancy to farmers. David pays FWAG to create biodiversity plans for all his suppliers. Many of the farms have also taken the opportunity to deal with FWAG directly to extend the plans across the whole of their farming enterprises. One producer is currently in the process of re-wetting fields to provide a habitat for wading birds. Other farmers have progressed from the ELS and entered the Higher Level Scheme (HLS), which aims to deliver significant environmental benefits in high priority situations and areas.



## Inputs & Operations

### Tree planting

David encourages suppliers to plant trees to cover over 20% of the hen range and provides a financial bonus to suppliers who achieve this. The tree planting is carefully planned by FWAG, with consideration given to local site variations and characteristics, and with both fast-growing and traditional tree varieties being planted. This ensures that the habitats provide optimal benefit to both the hens and to the native wildlife, while blending in to the surrounding landscape. The input of FWAG also helps to ensure that fewer trees are lost in the early stages of growth.

The primary benefit of the tree planting programme is improved bird welfare. The trees provide cover for the birds, which encourages them to range (roam) outside the buildings. Research clearly links increased ranging behaviour to improved bird welfare.

The secondary benefit of the tree planting programme is environmental; the programme

*"The Farming & Wildlife Advisory Group has been very impressed by the way David and his team at The Lakes Eggs Company has embraced the wider issue of farmland biodiversity on the farms that supply eggs to the company. We have carried out whole farm plans for all the units over the past few years and we are delighted that we can once again provide advice on the design and species composition of the latest venture in tree planting around all the units to encourage the hens to spend more time outside and to provide a large and more diverse ranging area."*

**Michael Woodhouse, Business Development Manager, Farming & Wildlife Advisory Group**

*"In a study of 14 free-range hen flocks, ranging behaviour was observed in a consistently higher number of hens in those flocks provided with tree cover (cover accounting for a minimum of 20% of the range). Hens with cover were also observed to range further and to make better use of the whole of their outdoor run, compared to those without cover who tended to use only the edges of the run. Tree cover was also found to significantly lower the proportion of aggressive behaviour observed. ...this study suggests tree cover on the range improves hen welfare by encouraging ranging activity and reducing both aggressive behaviour and fear of novel situations."*

**(‘The effects of tree cover on the ranging and welfare of free-range layer hens’, Royal Veterinary College)**

*"The incidence of injurious feather pecking tends to be reduced where birds make good use of the ranging areas available. It should therefore be a priority to encourage the birds' natural desire to roam. Birds find open spaces a threat however (increased risk of being spotted by predators), which is why a barren area is much less attractive to the birds than one which provides some form of cover in the form of natural or artificial shelters. Shelters such as trees and bushes help in encouraging the hens to use the range area. Trees and bushes provide dappled shade and encourage the birds to actively explore their environment, rather than pecking other hens. Additionally, if a high proportion of birds use the range, the average stocking density in the house is reduced for a longer period of time, which decreases the risk of pecking problems arising."*

**(Excerpt from DEFRA's Practical Management of Feather-pecking)**



provides increased biodiversity and helps in the reduction of greenhouse gases. In addition, on David's farm, trees have also been planted in areas which are difficult to farm with conventional machinery and techniques (such as awkward field corners and steep banks), ultimately increasing the biodiversity of the farm and surrounding area.

Over 200 acres of trees have been planted across The Lakes as a company, and over 6000 acres of Cumbria are part of structured biodiversity planning through the efforts of The Lakes and its suppliers.



Tree planting enables birds to exhibit natural behaviours whilst also providing environmental benefits.



Operational practices are adopted that minimise stress on the birds

are reared specifically with David's production system in mind. The pullets receive a comprehensive vaccination programme and a rearing plan is in place, allowing the birds to grow for a longer period of time, before being despatched to the layer units. The rearing units are purposely sited within a two-hour travelling distance of the laying units which further minimises stress on the birds. Once the birds arrive on the laying units several aspects of feeding and management are similar to the pullet rearing facilities which again reduces stress. David uses wheat straw on a section of the building floors which allows the birds to scratch and peck. Once the range area is made available to the birds they are able to walk around outside in planted areas which encourage roaming (see above – Tree Planting).

**Environmental benefits:**

- The generally accepted carbon storage of a mature broadleaf tree is up to 1 ton per tree. (Source: Carbon Responsible)
- New UK tree plantings by hectare are less than 25% of the level in 1971. (Source: Forestry Commission)
- UK forests annually store the carbon equivalent of the emissions from 3 million cars. (Source: Scottish Forestry Trust)

**Reducing stress for the birds**

The Lakes is dedicated to the welfare of the birds, and work to reduce stress to the animals from the early stages of bird production, by using only well-reared birds and practices that minimise stress.

David sources all his pullets from DMS (pullets) Ltd as their rearing sites are small, well managed and they provide birds which



### Building design & construction

The Lakes requires that suppliers' buildings are constructed so that they are multi-purpose and can be used for storage, or for housing livestock, should the commercial climate change. This gives farmers a sound investment while not tying them in to egg production on a long-term basis. There are no complex electrical systems as the houses are designed to be naturally ventilated. This gives a reduction in energy usage of up to 70%, compared to mechanical ventilation. Extra pop holes are also constructed which makes it easier for birds to go outside.

One very important consideration in laying bird housing is red mite control. Red mites feed on the blood of birds at night when they are roosting and can have devastating effects on bird welfare, egg production and quality. Mites need cracks and crevices to hide in during the day and the materials used for house construction are a significant factor in control. The use of concrete panels instead of wood in The Lakes suppliers' buildings discourages mites. Drinking and feeding systems are also selected on the basis of not providing areas for red mite to flourish.

*"We are really supportive of all the work McDonald's is doing to improve the welfare of laying hens. We have already given McDonald's a Good Egg Award for its commitment to free-range egg sourcing and we're really pleased it's working closely with FAI and suppliers like Lakes Farm to highlight best practice such as giving hens tree cover.*

*We're also really pleased to see such a well known brand profiling welfare as a priority alongside other its other responsibilities to the environment and communities. Animal welfare is rated as one of the top consumer concerns in the UK and we're proud that McDonald's is responding by showing it off to its customers and the wider industry."*

**Steve McIvor, Director of Food Business, Compassion in World Farming**



**Buildings are designed to be multi-function, require minimal artificial ventilation and promote animal welfare.**

### Feed & medicines

Feed is all from one source and in view of the productivity is of the highest quality possible. All feed is approved and authorised by The Lakes, contains no artificial yolk colourants or Genetically Modified materials and is fully traceable.

All use of medicines throughout The Lakes is therapeutic. No prophylactic use of medicines is undertaken and even wormers are only used after worm sampling has identified the need to do so.

All birds are vaccinated against Salmonella Enteritidis and also Salmonella Typhimurium. The Lakes was the first company in the country to do this for all production and is still one of the very few to do so.

## Outputs

The Lakes producers achieve consistently higher average egg yields when compared to the UK standard.

*Egg production to 72 weeks.*

| <b>Year</b> | <b>Average yield for all Lakes producers</b> | <b>UK average yield across all systems</b> |
|-------------|--|--|
| 2003        | 307  | 298  |
| 2004        | 308  | 301  |
| 2005        | 304  | 304  |
| 2006        | 306  | 298  |
| 2007        | 309  | No data                                    |

**2007 Variation: 252-334 eggs/bird**

The farm laying units achieve lower mortality rates than the documented breed average.

*2007 Mortality figures for all flocks.*

| <b>Age (weeks)</b> | <b>Breed Target (%)</b> | <b>Actual for Lakes Flocks (%)</b> |
|--------------------|-------------------------|------------------------------------|
| 20                 | 0.25                    | 0.17                               |
| 25                 | 0.50                    | 0.54                               |
| 30                 | 1.00                    | 1.19                               |
| 35                 | 2.00                    | 1.69                               |
| 40                 | 3.00                    | 2.14                               |
| 45                 | 4.00                    | 2.75                               |
| 50                 | 5.00                    | 2.80                               |
| 55                 | 6.00                    | 3.95                               |
| 60                 | 7.25                    | 4.60                               |
| 65                 | 8.50                    | 5.50                               |
| 70                 | 10.00                   | 7.00                               |

## Community

David and The Lakes Free Range Egg Company have invested over £4 million into the local economy during the last year, through wages, local contracts and spending.

After the foot and mouth outbreak in 2001 the area was badly affected and traditional agricultural enterprises were economically unviable. The Lakes has provided local farms with a profitable diversification venture.



*"David and Helen have developed a business which is focused on animal welfare and great product quality. Their dedication and commitment to the local community and environment is admirable. They are passionate about the welfare of their hens and are committed to providing conditions which improve the wellbeing of the birds. David is quick to share his ideas and enthusiasm with his contract egg producers and has developed a business which is easy for farmers to set up and is ultimately profitable. The agricultural sector was badly affected after the 2001 foot and mouth outbreak and the economic importance of David's business in the area cannot be underestimated."*

**Karl Williams, Flagship Farms Programme Manager, FAI**



## Appendix

*FWAG has been working with David Brass since 2001 and during this time we have helped him and his producers to recognise the environmental value of their holdings, not just on the hen ranges but throughout each farm. Our initial advice was for a Woodland planting scheme at David's own farm. We then went on to prepare Farm Biodiversity Action Plans (BAPs) for David and each of his producers. The Farm BAPs highlighted the key wildlife species and habitats on each holding, outlined measures to ensure that they will continue to be conserved and identified opportunities for agri-environment scheme support for this and other environmental improvements that the producers were encouraged to adopt. As new producers have become involved, we have carried out further Farm BAPs so that everyone involved with the Lakes Free Range Egg Co. is aware of the environmental aspect (wildlife, landscape and history) of their holdings. As part of the Farm BAP project, each producer was supplied with a selection of 40 locally native broadleaved trees, which*

*were planted on their respective hen ranges. Many of the producers have also undertaken comprehensive tree planting schemes in addition to this. A number of the producers have been involved in agri-environment scheme agreements for several years and, through the Farm BAP project we have been able to help those who were not to successfully apply to the former Countryside Stewardship Scheme and more recently the Entry Level and Higher Level Stewardship schemes.*

**Paul Arkle, Farm Conservation Adviser/  
Team Leader**