



## The chicken and the egg

Consumers face a difficult choice between choosing chicken welfare over cheaper food. We outline the differences between the various production systems and compare the price of chicken and eggs in an attempt to assist the consumer to decide for themselves.

Consumers are probably more informed about poultry farming standards than other types of farming, but the information the consumer receives can be skewed. Poultry farming and its welfare standards have long been the focus of animal rights campaigns. Food enthusiasts, such as celebrity chefs have suggested higher standards mean better quality food.

Intensive chicken production began in the 1920s in response to demand for affordable, high quality protein. Producing cheap meat is best done in an intensive system. Increasing welfare standards comes at a higher cost, such as reduced stocking densities, which then decreases productivity and profitability. Poultry farmers can't control welfare standards themselves but are part of a system, including retailers, processors

and consumers, which demands cheap food and requires margins to be squeezed.

The majority of poultry farming in Ireland and throughout the EU is in large intensive units. Other types of farming systems will often have a greater variety of farm structures. Seven major poultry processors and 800 producers dominate the Irish market. Intensive systems come with benefits and drawbacks.

Intensive production conditions restrict hens from acting like they naturally would. However, conditions are improving as efficient and more welfare friendly production systems are researched. In the past, restricted space meant hens couldn't freely flap their wings, peck and scratch, but space requirements have been increased and further improvements will be introduced

in the EU by 2012. Intensive systems are efficient. Fast growing breeds are selected as they reach maturity quickly. A conventional chicken is ready for the plate after around seven weeks.

Laying hens produce 250 to 290 eggs in their life of about one year, meaning they lay one egg eight days out of every ten. Hens have been selectively bred to produce more eggs than they naturally would, which was around 20 a year. Each system of production, from intensive to free range, is regulated in the EU (see *Egg production* and *Broiler production*). The labelling of products from each system is also regulated.

### Labelling

In a 2006 Eurobarometer survey, on average, 35% of Irish consumers felt labelling of animal products in general

### AT A GLANCE

Chicken welfare.

Production standards.

Food prices.

wasn't adequate to allow consumers to identify products sourced from animal welfare friendly production systems. However, chicken and egg labels will indicate if the type of production system is an alternative one, such as free range or organic. Chicken produced intensively usually doesn't make any reference to this on the label.

Eggs produced from caged hens must state this on the box. Consumers will most often see the eggs described as 'fresh' on the front of pack, while 'eggs from caged hens' will be stated on the back. Each egg must be stamped with a code. The first number denotes the production system.

- 0 Organic
- 1 Free range
- 2 Barn
- 3 Cage

Eggs don't have to state their origin, but the code on each egg gives an indication. If the eggs are stamped with IE after the number denoting the production system, they were produced in Ireland.

### Animal welfare concerns

The Eurobarometer survey also found that on average Irish consumers ranked protecting the welfare of farm animals as very important and 57% said they would like more information on how animals are farmed. Of all European consumers, 44% felt that welfare conditions for laying hens should be improved and 42% for broiler hens. Irish research also supports these findings.

In 2004 Safefood asked consumers which foods they were most concerned about in terms of how they are produced, packaged, sold and handled in the home. Consumers were most concerned about chicken. Specific concerns included how chickens are reared, what they are fed and their country of origin. However, consumers saw little advantage in buying free range or organic in comparison with conventionally reared. Organic was considered an expensive lifestyle choice. Irish origin was of greater concern to consumers, rather than consuming free range or organic produce.

### Consumption, price and welfare

Chicken and eggs are commonly consumed foods. The Irish Universities Nutrition Alliance Food Consumption Survey found that 68% of consumers eat eggs and 71% poultry. After pork, poultry is the second most consumed meat in

EGGS <sup>1</sup>			
	Price (€)	Origin	Bord Bia Quality Assurance
<b>CAGED</b>			
Aldi	1.09	Ireland	✓
Centra	1.58	Ireland	✓
Dunnes Stores	1.58	Ireland	✓
Ballyfree	1.19	Ireland	✓
Greenfield	1.17	Ireland	✓
Spar (large)	1.59	Ireland	✓
Lidl (large)	1.11	UK	✗
Tesco	1.58	Ireland	✓
<b>FREE RANGE</b>			
Ballyfree	1.94	Ireland	✓
Bellview	2.09	Ireland	✓
Centra	2.21	Ireland	✓
Dunnes Stores	1.59	Ireland	✓
Golden Irish	1.82	Ireland	✓
Lidl	1.69	Holland	KAT <sup>2</sup>
Marks & Spencer	1.77	Northern Ireland	British Lyon Quality <sup>3</sup>
Superquinn	1.76	Ireland	✓
Tesco	1.59	Ireland	✓
<b>FREE RANGE OMEGA 3</b>			
Greenfield Eggcel	2.09	Ireland	✓
O-Megga	2.09	Ireland	✓
Marks & Spencer (very large)	2.49	Northern Ireland	British Lyon Quality <sup>3</sup>
<b>FREE RANGE CORN FED</b>			
Superquinn	2.99	Ireland	✓
<b>ORGANIC</b>			
Aldi	2.55	Ireland	✓
Marks & Spencer	2.69	Northern Ireland	British Lyon Quality <sup>3</sup>
Superquinn	2.99	Ireland	✓

<sup>1</sup> Comparison based on box of six medium eggs, unless otherwise stated. Survey carried out between 30th July to 13th August 2008. <sup>2</sup> German certification scheme operated by the Association for Controlled Alternative Animal Husbandry. <sup>3</sup> Voluntary quality assurance scheme operated in the UK. Standards include vaccination of stock against salmonella, production standards and improved traceability, see [www.britegg.co.uk/lionquality05/lionquality2.html](http://www.britegg.co.uk/lionquality05/lionquality2.html) for more details.

Ireland. It is also thought we are one of the highest poultry consumers in Europe, at 34kg per head per year. Chicken and eggs are both healthy, convenient foods. Chicken is a low fat protein source. Eggs are a versatile, easy to prepare food that is high in protein, vitamins A, D and E. General dietary recommendations now suggest an egg a day is ok.

Research suggests animal welfare is a consumer concern. With rising food prices, every cent counts, which adds extra pressure to compromise ethical preferences when choosing foods we consume a lot of.

Our price survey compared the price of intensive, free range and organic chicken and eggs. The survey found that on average free range eggs were 48% and organic 102% more expensive than eggs from caged hens. In the case of chicken, a free range bird was 79% and an organic

bird 191% more expensive than an intensively reared one. Free range chicken breasts were 35% more expensive and organic 56%. The price differences are of a greater margin when it comes to chicken than eggs. For example organic eggs were on average €1.39 more expensive than caged, but for a whole chicken, organic was €8.03 more expensive per kilo.

Better value can be found than our averages convey, however, it does require some commitment on the consumer's part by shopping around. Our survey is of supermarkets, so it may also be worth checking your local butcher's prices.

### Non EU production

European consumers are given greater guarantees than others. In Australia, there are no enforceable regulations for free range egg and chicken production.

## Useful contacts

### Bord Bia

Dublin Head Office  
Clanwilliam Court  
Lower Mount Street  
Dublin 2  
tel (01) 668 5155  
fax (01) 668 7521  
email [info@bordbia.ie](mailto:info@bordbia.ie)  
[www.bordbia.ie](http://www.bordbia.ie)

### Department of Agriculture and Food

Head Office  
Agriculture House  
Kildare Street  
Dublin 2  
Lo call 1890 200 510  
tel (01) 607 2000  
email  
[info@agriculture.gov.ie](mailto:info@agriculture.gov.ie)  
[www.agriculture.gov.ie](http://www.agriculture.gov.ie)

### Safefood

Block B  
Abbey Court  
Lower Abbey Street  
Dublin 1  
Helpdesk 1850 404  
567  
tel (01) 448 0600  
fax (01) 448 0699  
[www.safefood.eu](http://www.safefood.eu)

### Useful website

**Compassion in World  
Farming**  
[www.ciwf.ie](http://www.ciwf.ie)

## CHICKEN <sup>1</sup>

	Price (€)	€ per kg	Origin	Bord Bia Quality Assurance/Irish Origin
<b>BREAST FILLET</b>				
<b>Intensive</b>				
Aldi 454g	6.59	14.52	Ireland	✓
Tesco 250g	4.49	17.99	Ireland	✓
Superquinn 420g	9.79	23.31	Ireland	✓
Superquinn Corn Fed 250g	6.99	27.96	Ireland	✓
Marks & Spencer 250g	6.49	24.99	Northern Ireland	✗
Lidl 454g	6.59	14.52	Ireland	✓
Dunnes Stores 240g	5.49	22.88	Ireland	✓
<b>Free range</b>				
Moy Park Free Range Corn Fed 320g	9.02	28.85	Ireland	✗
Dunnes 225g	6.29	27.96	Ireland	✓
Marks & Spencer 280g	7.84	27.99	Northern Ireland	✗
<b>Organic</b>				
Dunnes 300g	9.99	33.30		✗
Moy Park 250g	7.99	31.97	Ireland	✗
<b>WHOLE CHICKEN</b>				
<b>Intensive</b>				
Aldi 2kg	6.99	3.49	Ireland	✓
Lidl 1.8kg	6.29	3.49	Northern Ireland	✓
Tesco 1.3kg	5.00	3.85	Ireland	✓
Superquinn Farm Value 1.2kg	5.99	5.45	Ireland	✓
Superquinn Corn Fed 1.2kg	5.62	4.69	Ireland	✓
Dunnes 1.3kg	4.65	3.64	Ireland	✓
Marks & Spencer 1.4kg	6.81	4.86	Northern Ireland	✗
<b>Free range</b>				
Superquinn Select 1.3kg	12.59	9.68	Ireland	✓
Dunnes 1.8kg	13.99	5.55	Ireland	✓
Tesco Finest 1.3kg	8.61	6.63	Ireland	✓
Marks & Spencer 1.5kg	11.96	7.59	Northern Ireland	✗
Marks & Spencer Norfolk Corn Fed 1.36kg	10.13	7.40	England	✗
Moy Park Corn Fed 1.5kg	13.10	8.42	Ireland	✗
<b>Organic</b>				
Dunnes 1.2kg	10.99	9.16		✗
Moy Park Irish 1.7kg	23.49	13.82	Ireland	✗
Tesco Organic 1.2kg	15.59	12.99		✗
Traditional Organic Free Range 1.2kg	15.04	12.99	France	✗

<sup>1</sup> Survey carried out from 30th July to 13th August 2008.

## choice comment

With rising food prices, the value-driven consumer faces conflicting dilemmas, and supporting higher welfare standards comes with added challenges. Systems with higher standards produce less food based on their inputs. However, along with the problem of food shortages, statistics also suggest that consumers throw food away. Can we make better use of what we do buy, allowing us to spend that bit more on food produced with greater concern for the welfare of the animal? If consumers wish to choose the higher welfare option, they can make it go further by using less or, for example, getting everything out of a chicken carcass. However, this still depends on how much the budget can be stretched, the time available and general cooking skills.

Voluntary standards do exist, set by groups such as the Free Range Egg and Poultry Association, the Humane Choice Labelling scheme and animal welfare groups such as the RSPCA and standards differ. The poultry industry also operates its own certification schemes.

### Imports

The 2006 Eurobarometer survey found that 88% of Irish consumers felt that imported foods from non-EU countries should have to respect the same animal welfare conditions as within the EU. Less than 50% of the chicken breast meat sold

in Ireland is produced here. The 2004 Safefood report on the Chicken Supply Chain highlighted that 70% of chicken used in catering industry was imported from non-EU countries.

While it's mostly made clear if eggs, chicken breasts and whole chickens are Irish, it's less clear with processed chicken products, as well as products containing eggs, such as mayonnaise and baked goods. It's also unclear what system these have been produced under. The consumer can probably assume that they come from intensive systems unless otherwise stated.

Hellmann's now makes its mayonnaise with free range eggs. Marks & Spencer is the only retailer operating in Ireland that has made a commitment to free range. It doesn't stock any eggs from caged systems or use them in their foods. However, its chicken can still come from intensive systems. There is also the issue of eating out. No regulations exist to compel caterers to declare the origin or production system from which the chicken or eggs they use are sourced. However, when the Feile Bia sign is displayed, chicken and eggs must be Bord Bia quality assured (see Bord Bia quality assurance standard).

### Chicken feed

Grains, such as wheat and barley, make up most chicken feed. Protein is added at different concentrations during the chicken's life to support growth. If eggs have a marketing claim based on how the bird was fed, such as 'corn fed', they must not be produced under the caged system, but at least in accordance with standards for barn egg production. Barn rearing is not common in Ireland. From the eggs included in our survey, when a corn fed claim was made, it also came with free range status.

However, such claims don't automatically refer to higher welfare standards, unless other claims such as free range or organic are also made on the label. If a specific type of feed is referred to on chicken, it must account for 35% of the total and 50% in the case of maize. The requirement only applies to the greater part of the bird's fattening period. Feed claims can be made on intensively reared birds, but similar to what our survey found for eggs, most feed claims also came with a free range claim.

Report by Aisling Murtagh



## BROILER PRODUCTION

**Intensive** There is no minimum lifespan chickens must attain, but they are usually slaughtered after 5 to 7 weeks. Rapid growth can affect the welfare of the animal leading to brittle bones and breakages. Breeds are selected for their high proportion of breast meat and rapid growth. Poorly managed conditions can lead to blisters or hock burns developing on the chickens' legs and breasts, which are visible on the carcass consumers buy, but are also sometimes trimmed. The report from the European Commission Scientific Committee on Animal Health and Welfare states that most welfare issues in commercial broiler production are: "a direct consequence of genetic selection for faster and more efficient production of chicken meat and associated changes in biology and behaviour."

A maximum stocking density of 33kg and up to 39kg per m<sup>2</sup> will be introduced by 2010. CIWF has criticised the change saying the change is the equivalent of 18 birds per square metre, does nothing to improve welfare, but gives a green light to highly intensive poultry production. CIWF Director, Mary

Anne Bartlett has stated the EU directive "fails to address the use of unnaturally fast-growing birds that are prone to painful leg problems."

**Barn reared** This system has lower stocking density than the intensive system and should not exceed 15 birds per m<sup>2</sup> or 25kg per m<sup>2</sup>.

**Free range** The maximum stocking density is 13 broilers per m<sup>2</sup> or 27.5kg per m<sup>2</sup>. Chickens must have access to an outdoor area that is mainly covered in vegetation (at least 1m<sup>2</sup> squared per chicken). The diet must contain 70% cereals during the fattening period.

**Organic** No intensive production is permitted. Any organic free range farm must not have more than 4800 broilers. The maximum stocking density is 12 per m<sup>2</sup> or 25kg per m<sup>2</sup>. Their outdoor area must have a greater vegetation cover with at least 2m<sup>2</sup> squared per chicken. Birds must not be slaughtered before they are 81 days old. The breed must be slower growing. Perches and exit popholes must be provided in the shed. The shed must have at least a third covered material such as straw or wood shavings.

## BORD BIA QUALITY ASSURANCE STANDARD

A quality assurance schemes for chicken and egg production is operated by Bord Bia. It is open to all producers and types of production. Estimates suggest 97% of chicken and eggs produced in Ireland are quality assured. The standards are extensive. Below we have outlined the main areas in which standards are set, giving an example of each. The following apply to chicken and egg production:

- **Flock sourcing** The flock must be tested to ensure it is free of salmonella before delivered to the poultry house and must not be treated with antibiotics if an outbreak occurs.
- **Hygiene and disease control** Monthly dust samples must be taken and tested for salmonella to ensure disease control measures are effective.
- **Flock welfare** The stockperson must have a good knowledge of poultry husbandry, such as understanding the significance of behavioural changes, evaluating if the birds are in good health and if their environment is adequate.
- **Feed/water** Feed must be heat treated; an effective measure in the control of salmonella. Water must be of potable quality and a system in place for emergency supply.
- **Environmental protection** A manure management programme must be in place to prevent pollution and the spread of disease.

There are also additional requirements for specific production systems. For example, free range houses must have a maximum of 4,000 birds in each house, whereas 4,800 are permitted by EU standards. The outdoor area must be 10m<sup>2</sup>, rather than 4m<sup>2</sup> under the EU standards. There are also more specific requirements on the amount of artificial light caged hens are exposed to. There should be 8 hours light, twilight and darkness daily. The EU requirements are less specific, stating that the period of darkness must last about one third of the day.

Chicken production also has more specific requirements. There must be adequate ventilation to maintain gas levels that are safe and comfortable for the birds. Ammonia, carbon monoxide and dioxide are of greatest concern. Their concentration must be controlled within certain limits, which must also be observed in egg production.

A recent Channel Four documentary, *Chicken Out*, highlighted the strong smell that can develop when ammonia levels get too high. Irish producers have suggested that these conditions would not be tolerated in the EU as allowing them to develop is a breach of EU regulations.

## EGG PRODUCTION

- **Caged** Hens must be housed in a cage at least 40cm high and have a minimum total space of 550cm<sup>2</sup> per hen. The minimum standards are being raised in the EU, with the introduction of new cage specifications by 2012, also known as enriched cages. In the mean time, no unenriched cages can be introduced. According to the European Food Safety Authority, unenriched cages increase the risk of disease, bone breakage, harmful pecking, behavioural problems and premature mortality. The new cages must have a minimum height of 50cm and total space per hen of 750cm<sup>2</sup>. Space is not the only improvement. Hens will be provided with perching space of 15cm per hen, litter such as straw to allow pecking and scratching, and access to a feed trough of at least 12cm per hen.

Light is important for hens to produce eggs. Hens can be exposed to a greater number of daylight hours in caged systems. However, lighting must follow a 24 hour sequence, with an uninterrupted period of darkness of about one third of the day. Animal welfare groups, such as Compassion in World Farming (CIWF), would like to see all caged production banned. It views the changes as marginal improvements and see free range as the better system for animal

welfare. However, such a change would likely see a significant increase in the cost of eggs.

- **Barn/perchery** This type of egg production is uncommon in Ireland. It is an indoor rearing system without cages, but birds have no access to outdoors. The maximum stocking density is 9 hens per square metre (m<sup>2</sup>). The barn must have perches and litter covering at least a third of the ground surface. Hens must have one nest between seven providing a separate space to lay eggs.
- **Free range** The birds have outdoor access all day. The outdoor area must be mainly covered in vegetation (at least 4m<sup>2</sup> per chicken). Indoor conditions must equal that of barn reared birds but the shed must also have popholes giving direct access to the outdoor area. Maximum stocking density 7 birds per m<sup>2</sup>.
- **Organic** Intensive production is not permitted and general organic standards apply. The specific requirements are similar to free range, but also have additional requirements. The hen's diet must contain 65% cereals and no meat by-products or fishmeal. The maximum stocking density is 6 birds per m<sup>2</sup> and hens must have one nest between six providing a separate space to lay eggs. The farm is limited to a maximum of 3,000 hens.