

# Economic consequences of an

**Layer welfare is a major issue in the EU and will result in a ban on traditional cages. Various initiatives have resulted in the development of alternative housing methods, varying from modified or enriched cages to aviary and free-range systems. Some countries even may prohibit enriched cages too. What will be the economic consequence of such plan?**

By Peter van Horne, Poultry Economist at the Agricultural Economics Research Institute (LEI - Wageningen-UR), The Netherlands. (Email: Peter.vanhorne@wur.nl)

In 2012, traditional cage housing for laying hens will be prohibited in the EU. As of then, hens may be housed only in enriched cages or alternative systems (such as barn, free-range or organic). There are three countries in the EU that impose further-reaching requirements on the housing of laying hens, namely Sweden, Austria and Germany. Outside the EU, only Switzerland has a ban on cages. In the Netherlands, a motion was passed in the Dutch parliament requesting the legislation to be amended to include a ban on the housing of hens in enriched cages in the country. The Ministry of Agriculture, Nature and Food Quality asked LEI to investigate the consequences of such a prohibition. In this article we focus on an area of this study: the production cost of eggs produced in the different housing systems and the possible impact on the EU and worldwide market for eggs and egg products.

The situation in Germany is very important to the Dutch government and the Dutch poultry industry because almost half of the eggs produced in the Netherlands are exported into the German border. There have been discussions for many years about a possible cage ban in Germany. The legislation now prohibits the housing

of laying hens in traditional cages after 31 December 2009 at the latest. After this date, hens may be kept only in family cages (in German: *Kleingruppenhaltung*) or alternative systems. The German family cage is, in fact, a somewhat more spacious version of an enriched cage, generally with a group size of 40-60 hens. The difference from the EU enriched cage lies mainly in the greater cage height and the larger space per hen.

## Production cost comparison

So far, there has been little experience in the Netherlands with regards to keeping hens in enriched cages. The starting points for the production cost comparison have been formulated on the basis of research results, practical experience in some countries (Sweden, Germany, UK) and information from experts. The calculations indicate that the production cost per kg of eggs in the enriched cage is 7.8% higher compared to the traditional cage with, according to the EU regulations, 550 cm<sup>2</sup> per hen. This increase arises mainly from the higher housing costs. The production cost for hens held in aviary houses is 21.4% higher than the traditional cage. This increase arises from higher rearing costs for pullets (reared in floor systems), higher feeding costs (higher feed consumption per hen per day), higher housing costs, higher labour costs and lower egg production per bird housed. Figure 1 gives an overview of the different cost components for layers in the traditional cage, the enriched cage and an aviary/ barn system.

After the introduction of the EU ban on the use of the traditional cages from 2012, the difference in production costs between cage eggs (from the enriched cage) and barn eggs will be smaller. In comparison with the eggs produced in enriched cages the selling price for barn eggs must be €0.09 per kg higher in order to cover the extra costs for the production of these eggs.

## Market for table eggs

The Netherlands is ahead of the surrounding countries as far as market



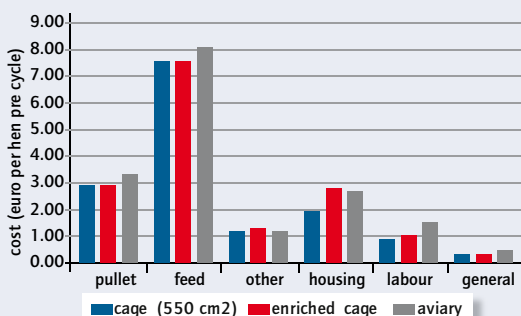
**Family cages are similar to enriched cages but provide more space to the hens due to fewer separation walls.**

share of alternative eggs in the table egg market is concerned. Barn eggs are the market leader in the table egg market by a wide margin, partly because cage eggs are no longer sold in supermarkets. The share of cage eggs in the Dutch retail egg market was 16% in 2005. The market share of cage eggs in retail egg markets in Germany was 43% in 2005.

Of all the eggs produced in the Netherlands, 65% are exported. Germany is by far the most important export destination for table eggs. Seventy-five percent of Dutch alternative eggs find their way to supermarkets and foodservices (restaurants, catering, institutions) in the Netherlands and neighbouring countries. In addition, about 25% of the alternative eggs go to the egg processing industry in the Netherlands and Germany. Despite the fact that there is a large market for barn eggs, the supply at present is still larger than the demand.

On the basis of the trend in demand in the table egg market in the Netherlands and in Germany, it can be expected that

**Figure 1 - Different cost components for housing hens in traditional cages (550 cm<sup>2</sup> per hen), enriched cages and aviary systems. Costs in euro per hen per cycle based on prices in spring 2007 in the Netherlands.**



# EU ban on enriched cages



*An aviary system provides more freedom for the birds, but is it more economical? ▼*



*In enriched cages, layers have the desired elements for improved welfare and natural behaviour.*

the demand for barn eggs will continue to increase over the next five years. The speed at which that happens will depend on the selection policy of supermarkets and of customers in the foodservice market.

## Market for egg products

More than 40% of the eggs produced in the Netherlands find their way to the egg processing industry in the Netherlands and neighbouring countries. The Dutch egg processing industry is the market leader on the European export market with Germany, the UK, Belgium, Japan and Switzerland being the principal customers. Because of lower prices and better microbiological quality, the industry processes predominantly cage eggs. The Dutch egg processing industry is encountering increasing competition in the market for liquid egg products from southern European countries such as Italy and Spain. In the powdered egg market there is also increasing competition not only from European players, but also from players outside of the EU, such as the US, Brazil and India.

The autonomous development of alternative egg products is dependent on the price trends of alternative eggs

and the quality improvements which can be carried through. On the basis of the present trends in demand, an increase in the demand for alternative eggs is possible since the trend towards alternative eggs is expected to develop further in the next few years within the food industry.

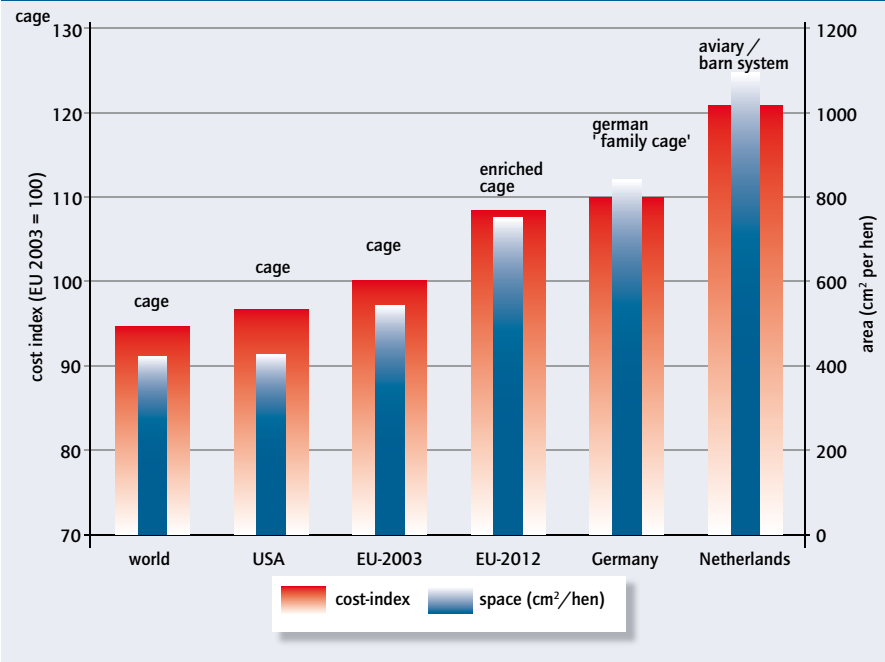
The market for egg products is a semi-manufactures market, in which product quality counts for more than price. Consumers do not tend to associate the end products - such as sauces, pasta, bakery products - with eggs. Consequently, the additional cost of alternative egg products as a raw material in the market cannot be recovered, or can be recovered with great difficulty. If a prohibition on the enriched cage is introduced unilaterally in the Netherlands, awareness-raising and stimulation of behaviour will be necessary among consumers in order to encourage the sale of consumer products based on alternative egg products. The domestic and foreign food manufacturing industry also has an important role to play.

## Competition on the world market

The international trade in table eggs continues to be limited primarily to regions. There is little trading with

countries outside the EU. This also applies to liquid egg products. Some of the eggs are processed into egg powder. Because of the long-keeping qualities of this product and the relatively low transport costs there is an international trade. In some countries, such as the US, Brazil or India, the production cost of eggs is 30-40% lower. This is due to cheaper feed (abundant supply of local feed ingredients) and the absence of animal welfare legislation. The European market is currently protected by import duties which, together with transport costs, compensate for the difference in production costs. On the one hand, the European price of eggs is increased by animal welfare measures and, at the same time, the EU intends to reduce the import duties in the context of WTO negotiations. In this situation there is a possibility that it is economically more attractive for

**Figure 2 - Relationship between costs for animal welfare (wide bar; cost index on left-hand axis) and the area per laying hen (small bar; space allowance per hen in cm<sup>2</sup> on right-hand axis).**



the food industry to replace European liquid egg products with powdered egg from countries outside the EU. The consequence is that egg products will

be purchased from countries where the animal welfare standard is markedly lower than in the EU. Figure 2 gives an overview of the relationship between

production costs and the standard space for laying hens in different parts of the world. If the enriched cage is prohibited unilaterally in the Netherlands in 2012, laying hens will be allowed to be kept exclusively in alternative housing systems with a minimum area of 1,111 cm<sup>2</sup> per bird. In Germany the standard will be 800 to 890 cm<sup>2</sup> per bird in a family cage. In the EU the space allowance will be 750 cm<sup>2</sup> per bird in 2012 (enriched cages) and the current standard is 550 cm<sup>2</sup> per bird. In the US, voluntary rules apply which are based on 430 cm<sup>2</sup> per white layer with effect from 2008. In other countries in the world there is no legislation to govern the welfare of laying hens. Outside Europe, laying hens are generally kept in cages with an average area per bird, in Brazil, Ukraine, or India, for example, of 300-400cm<sup>2</sup>. Figure 2 shows that the production cost of eggs increases when the space allowance per bird in caged housing goes up. When the current EU standard gets a 100 index the production cost in the US and the rest of the world will be approx. 97 and 94. The index is above 100 when the space allowance is further increased in combination with a switch to enriched cages (index 108), German family cages (index 110) and barn / aviary systems (index 121). ■